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THE ROYAL COMMISSION

ON

ELECTRIC POWER PLANNING

*Preliminary Meetings of the Royal
Commission on Electric Power Planning*

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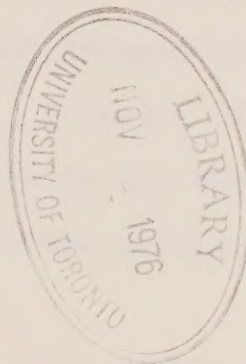
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ROYAL COMMISSION
ON
ELECTRIC POWER PLANNING

Hearing held at the City Hall,
Ottawa, Ontario, on the 18th
day of November, 1975, at
2:00 p.m.



MEMBERS OF THE COMMISSION:

DR. ARTHUR PORTER	CHAIRMAN
ROBERT E. E. COSTELLO, ESQ.	MEMBER
MME. SOLANGE PLOURDE-GAGNON	MEMBER
GEORGE A. McCAGUE, ESQ.	MEMBER
DR. WILLIAM W. STEVENSON	MEMBER

VOLUME 7



CD:
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2 ---Upon Commencing at 2:00 p.m.

Take 1

3 THE CHAIRMAN: Ladies and gentlemen
4 this is the second phase of the Commission's
5 preliminary public meetings in Ottawa which is
6 somewhat more formal than last night's opening
7 phase - which many of you were present will
8 appreciate were quite informal. I am going to
9 dispense with the Chairman's introductory remarks
10 because our program is so heavy and because we must
11 vacate this chamber no later than 5:15. In fact, it
12 should probably end by five o'clock because the Mayor
13 is having a meeting here at 5:30. I would, of course
14 like to say too how grateful we are to the Mayor and
15 the City of Ottawa for granting us the privilege of
16 meeting in this wonderful chamber.

17 I would in opening this afternoon's
18 session like my colleagues - and I'm not going to
19 introduce the Commissioners as I'm quite sure you
20 know them - but I am going to ask Madame Solange
21 Plourde-Gagnon to say a few words. We are acting as
22 co-chairmen this afternoon, for obvious reasons.

23 ---WELCOMING ADDRESS IN FRENCH BY MME. SOLANGE

24 PLOURDE-GAGNON.

25 THE CHAIRMAN: Thank you very much,
Solange.

THE CHAIRMAN: Ladies and gentlemen,



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2 on that note perhaps we might begin with Mr. Bell's
3 submission. Mr. Edward Bell. Would you like to sit
4 at the chair then and would you mind switching up the
5 microphone and hopefully everyone else's microphone
6 is switched off but yours.

7 SUBMISSION BY EDWARD S. BELL.

8 MR. BELL: Good afternoon, Dr. Porter
9 and members of the Commission. Society's expectations
10 of technology are changing and this Commission could
11 perform an essential service by leading the way to
12 a new consensus within which engineers can continue
13 to meet peoples' needs for goods and services under
14 acceptable guide lines. I am presenting my personal
15 views only but they are the views of an insider who
16 has worked for Ontario Hydro and also for a regulatory
17 agency, so they may be of help to the Commission.

18 First, I'd like to comment on a couple
19 of points that came to my mind during last night's
20 excellent session. When I worked for Ontario Hydro,
21 I prepared a longer range forecast of development
22 each year, and each year it was different for
23 various reasons. So, I do not believe that it
24 will be possible for anyone to come up with a
25 definitive development plan for Ontario's
electricity needs for the period from 1983 to
1993, and a general outline is all that can be



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hoped for.

The second point is in relation to technology. Planning for the period 1983 to 1993 will be based largely on existing technologies, at least on the supply side of the equation. On the demand side, there is scope for a great deal of social and institutional innovations to reduce overall energy demand. For the year 2000 and beyond we can think about starting research and development now to put appropriate technology in place to meet the problems that we can foresee for the year 2000.

Now, secondly, I mention just very briefly the points I did make in my written brief. First, the need for an approved load forecast for Ontario Hydro. Ontario Hydro is often accused of making self-fulfilling forecasts. Public examination and approval for an electricity forecast within an overall energy forecast, incorporating economic and social goals, would bring public acceptance for the final targets, and enable Ontario Hydro to plan more effectively. Ontario Hydro's engineers are among the best in the world. However, they do need clearly defined constraints within which to work. Your Commission can outline the social and environmental guide lines which can then be codified in legislation or regulations. This could include relative weightings



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1.4 when goals conflict. Ontario Hydro would then be able to follow these publicly accepted guide lines in it's planning and obtain public acceptance for it's work.

The third area is the need to set up an ongoing system for public hearings into Ontario Hydro's preferred plans and alternatives and for making final decisions on them. The past ad hoc procedures that we have had with final decisions at the political level, don't really satisfy the need for public participation. I suggest that a beefed-up Ontario Energy Board with full time members and an expanded staff could do this. A good staff working with Ontario Hydro and with private citizens in pre-hearing conferences would help the public to learn what was going on and to raise relevant questions. The citizens, starting from scratch and looking at utility planning, are at a very great disadvantage.

My final point is a plea that the priority projects will be dealt with as expeditiously as possible. I have seen reports in the press that Bruce Generation already approved will be locked in because of transmission delays. I am not clear from the Terms of Reference, exactly what is involved, so that my comments in the written brief may be wide of the mark there. However, the additional costs



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1.5 2 of coal to replace non-available power from a Bruce
3 unit, could be about six-million dollars a month.
4 Cost is not the only factor to be considered, but
5 I hope that all possible measures will be taken to
6 expedite these priority considerations in order to
7 avoid such costs to the people of Ontario, if at
8 all possible.

9 I would be very happy to answer any
10 questions to clarify any points that I have made in
11 my written brief or in these additional comments.
12 Thank you very much, Dr. Porter.

13 THE CHAIRMAN: Thank you very much,
14 Mr. Bell. You have kept to the time limit very
15 well, too, and I congratulate you on that especially
16 in view of the length of your written brief. I should
17 mention at this time, the Commission and many of the
18 Commission senior staff present, might like to question
19 the deponent concerning points of clarification. We
20 don't get involved in any debating at all in these
21 preliminary hearings. So, I wonder if Bill Stevenson
22 might have some comment.

23 DR. STEVENSON: I am not sure how many
24 citizens of Ottawa would know that Ed Bell is one
25 of Canada's better know system planning experts.
He has assisted the Ontario Energy Board in past
hearings by reviewing the submissions of Ontario



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2 Hydro and commenting informally as an expert in this
3 field thereon. So, these may appear to be the views
4 of an individual, but we have a most appropriate
5 individual to lead off today and I welcome him. I
6 don't think that I could attempt here to ask you
7 the kinds of questions that your brief raise -
8 clarification thereon - I'm merely more concerned
9 with the best way this Commission could have access
10 to your talents in the remaining two to three years
11 of our life because for one thing some of our terms
12 of reference, those dealing with power pooling and
13 provincial exchanges of power, the appropriateness
14 of Ontario Hydro exporting electric power to the
15 United States, are matters in which you deal daily
16 and we are going to need and require that your
17 input, either formally as a member of the National
18 Energy Board staff, or informally, I don't think it
19 matters too much. Can you tell me - could you
20 suggest to me how best we might relate to you on
21 some of these questions in the future?

22 MR. BELL: Well, certainly, I would be
23 prepared at any time to comment as an individual on
24 any studies provided they did not raise a conflict of
25 interest in any way with applications that might be
in front of the National Energy Board.

Perhaps I could add a few words about



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2 power pooling. The national power policy does
3 support the idea of co-operation between utilities,
4 and utilities across North America have found it
5 advantageous in improving their security and
6 reliability to work together to exchange power in
7 emergencies and for economy reasons. Since utility
8 practices are relatively the same on both sides of
9 the border, the border in that sense is almost
10 irrelevant. The utilities on both sides of the
11 border can assist each other so that exports made in
12 one year from Ontario to the United States might be
13 repaid the next year when Ontario runs into trouble.
14 And the fact that United States utilities tend to
15 have their peaks in the summer, while Canada has
16 theirs in the winter, gives us a natural market in
17 each other's country for exchange of power in summer
18 and winter which don't lead to net exports, but do
19 benefit both parties.

20 MME. SOLANGE PLOURDE-GAGNON: You
21 mentioned the participation of the population of the
22 citizens yesterday, and that you would like to have
23 a continuous system of public hearings. Could you
24 give us some more ideas on this?

25 MR. BELL: I certainly think that many
of these concepts will need more elaboration so that
the public will understand them and perhaps the



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Commission, after it's preliminary hearings, might be able to make a preliminary report that can be issued to the public which will outline the initial reactions and give a more informed basis for a second round of the same type of hearing that you had last night, which would be more sharply focused. I think Dr. Porter gave an excellent sort of general outline and the next round perhaps would lead to a sharper focus so that the people could speak more critically to the general points that have been made.

THE CHAIRMAN: This, Mr. Bell, is our intention, to produce an interim report based essentially on the preliminary meetings on the issues and concerns which people have raised and this would hopefully be published by early March.

Thank you very much. Again we are most grateful to you, Mr. Bell.

MR. BELL: Thank you.

THE CHAIRMAN: Mr. Ian Hardy?

SUBMISSION BY CANADIAN COALITION FOR NUCLEAR

RESPONSIBILITY - per IAN HARDY -

MS. DORIS McMULLEN:

MS. McMULLEN: I am not Ian Hardy. My name is Doris McMullen for the Canadian Coalition for Nuclear Responsibility. I take it you have copies of our brief.



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I think the point that we want to stress and we would like to see the Porter Commission stressing throughout it's preliminary hearings and it's interim report, is role of public education. Energy being that which makes things go, it's use and the decisions we make for it's end use, is the key to our way of life here in Ontario or wherever. Thus, the decisions we make now are choosing our futures. We are very concerned in the Nuclear Coalition, that perhaps many of the Canadian public feel that energy choices and decisions are technical questions that should be left to the planning experts. But we feel our role as a citizens' group and your role as the Commission is to expand that idea and to bring the full import of these decisions out to the public so people will be able to say as an ordinary citizen they do have valuable input. And we hope that in order to be very effective, the Porter Commission will, as an end goal, be able to recommend some mechanism for continuing sensitivity on the part of the planning institutions to decisive input from informed public opinion.

From our name, as you can see, we are quite aware of the nuclear option which seems to have been chosen for Canada, specifically for Ontario, with the projected 115 reactors to be built for this



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country, the greater part to be in Ontario. This is calling for a particular energy option which we feel must be widened and must be well debated and we are looking forward to the Commission in which to do this in order to bring out the shades of opinion and all the solid information which now is difficult for citizens' groups to obtain. We hope the Porter Commission will assist us to obtain the correct documentation and information.

Nuclear power offers risks to our way of life, thus in deciding for nuclear power, we are making value choices and each citizen must have an input there and must have all options clearly differentiated - what a centralized system means, in terms of life style, decentralization, high energy society, low energy society - which are possible - the placement of R and D support. These are all things which we would like to see be given a high priority and that we would be assisted in being able to, in an informed manner, debate these choices which we feel now have been made for us and we would like to have had greater input.

I guess our three greatest recommendations are, as I have been saying, public accessability to information on a continuing basis, energy conservation - that we can more clearly see



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1.11 what our energy needs are when waste has been
rigourously eliminated, and that the planning
institutions involved be shaped that they as
institutions and the people as decision makers in
those institutions can be more publicly accountable
in the future. I would say that is a summary of our
position which is more expanded in the paper.

THE CHAIRMAN: Thank you very much,
Ms. McMullen. Solange, do you have anything to say?

MME. PLOURDE-GAGNON: No.

DR. STEVENSON: How many of the 50,000
members of your coalition are residents of Ontario,
Ms. McMullen, any idea?

MS. McMULLEN: In Ontario, there are
eight groups which belong to the coalition. As you
can see, we just formed in the summer, so we're
signing up members. There are eight groups - I don't
know what their membership is.

DR. STEVENSON: I am hopeful that we
will have the list so that when we do reach the point
of having information to disseminate, and it will be
fairly soon, we will be able to get a copy in the
hands of everyone of your affiliated groups and the
members of those groups.

MS. McMULLEN: We can give the
Commission the mailing list. We haven't broken it



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down by province yet, we just have this pile of paper.
We can give you our mailing list for Ontario.

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DR. STEVENSON: I think that would be most helpful, and as long as you are in touch with our information secretary in Toronto, you can be sure that the information flow to the extent that we are producing material, will reach your membership.

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MS. McMULLEN: Thank you.

THE CHAIRMAN: Ms. McMullen, you will be interested - this is in connection with your reference to the educational implications of the Commission - you will be interested to know that it is very probable that we will be undertaking six or seven basic studies, not of the normal sort of research kind, but studies aimed at putting across information especially in the schools, at perhaps the grade 8, 9, 10 and 11 level, and this sort of activity which might be funded privately, as a matter of fact, will be underway hopefully within the next month or so. So, this is one aspect of the Commission's work, which I am sure will meet with your strong approval.

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MS. McMULLEN: Oh, yes. I think you can see from the interest you have been having across the province that any of the citizens' groups would be happy to assist on that.

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THE CHAIRMAN: Well, thank you very

Side 2



1
2 much Ms. McMullen.

3 Is Roger Peters here? Mr. Peters is
4 with Pollution Probe of Ottawa.

5 SUBMISSION BY POLLUTION PROBE, OTTAWA

6 - per Mr. ROGER PETERS.

7 MR. PETERS: Thank you, Dr. Porter.
8 I think I would like to explain first the scope of
9 what is happening in Pollution Probe, Ottawa division,
10 now especially including other environmental groups
11 in Ontario, because energy supply and demand has an
12 increasing impact on the environment, especially with
13 the new energy uses, I think this is why so many
14 environmental groups who may not have traditionally
15 put the energy issues, would be presenting briefs
16 like ours. Our brief is divided into three parts
17 and because we see these preliminary meetings -
18 because we see the initial phase of the meetings of
19 the Commission looking at the issues and ways of
20 doing things in the public interest, we have had a
21 lot of priority on our position on electric power
22 planning, so that the first two parts of our brief
23 looks at the recommendations or the suggestions that
24 we have for public involvement and issues. For
25 instance, on the way that public participation is
carried out, we feel that there is a very important
aspect of the preliminary report that you might be



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prepared and will be prepared, as you said, should be the definition of particular energy futures for Ontario. We take the example of Norway and Sweden to do this. In the case of Norway - the use of North Sea oil where a set of different growth rates, of different life style options, were presented to the public and they were given a choice, the government and the people doing this used this in their projections. This we feel is the most important part of our brief at this time.

The second suggestion would be that a good service of communication be set up across the province between environmental groups and all sorts of public interest groups, and the Commission, so that they can get access to the information as fast as they can, for example, a Zenith number or a cross province telephone communication network of some kind.

Thirdly, we had some suggestions about the provision of funds to assist groups, develop their briefs and have short term expertise to help them prepare their briefs when it comes to that time in the proceedings.

As far as suggested issues are concerned, we feel there could be a few more issues on the growth and economic side, in particular, for instance, the



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2 relationship between growth and the quality of life
3 and between specific fixed and variable elements that
4 make up energy needs in Ontario and looking at the
5 best methods to determine these elements. Should
6 energy planning be concerned with the supply of one
7 high grade power source based on extrapolations of
8 past demand or should planning be based on a regional
9 mesh of all elements of power demand with available
10 supply? On the economic side we feel that - should
11 energy investment planning discount the use of non-
12 renewable resources and the capacity of the
13 environment to absorb wastes for energy production?
14 What is the relationship between productivity and
15 energy use? Does the present growth in capital
16 investment in energy production lead to unemployment
17 and inflation?

18 As far as land use is concerned we feel
19 there are a few questions with regard to centralization
20 and decentralization of power generation and
21 transmission in Ontario.

22 On the environmental side we like to
23 make sure that the environmental impacts during the
24 mining of fuels or the preparation of fuels and the
25 elimination of wastes are taken into account when
assessing sources of power. In electrical power
generation, we feel that perhaps Ontario should be



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concentrating on the development of less complex renewable sources of energy than nuclear power. And perhaps that this comparison between nuclear power and other sources should be well looked into.

As far as implications beyond Ontario, there are some world-wide guide lines being developed on the international level to determine what is equitable and adequate as far as energy consumption. Perhaps the Commission could look into these as regards the level of present growth in Ontario.

I would just finish up by reading part of the preliminary position of Pollution Probe, Ottawa.

"The position of Pollution Probe, Ottawa is that, in a fundamental sense, the people of Ontario must now choose between continuation of the present growth of electrical power production based on a planning of policy experts and a future where electrical and other energy needs are determined by all segments of an informed public. To make this choice the people of Ontario must be informed of all the implications, costs and consequences of continuing existing growth, including the full environmental and social impact of nuclear power. It also means that the potential contributions of energy conservation and alternative energy sources must be fully investigated and explained.



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"Pollution Probe, Ottawa believes that the provision of new sources of electrical power in Ontario should be based on the development of solar, wind and other renewable resources and that the curtailment of demand through conservation and innovative charging structures. To facilitate these developments and to allow public determination of energy needs, Pollution Probe, Ottawa believes that a policy of decentralized energy production should be adopted."

I think that sums up our position. I would be glad to answer any questions you might have.

THE CHAIRMAN: Thank you very much, Mr. Peters. In connection with your thoughts relating to public involvement in the alternative scenarios, which you are suggesting, perhaps it will be premature at the time of the interim report for this to be forthcoming, because as I mentioned before, the preliminary meetings are essentially to identify the issues. The debates on the issues will follow and perhaps it will be subsequent to those debates that the Commission might be in a position to establish these alternatives, and then, as you say, to take a leaf out of the book of Sweden and Norway, and going to the public and saying well, this and this and



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this, predicated on the basic assumption, or these assumptions, or these assumptions, and so on.

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As far as communications are concerned, we were and still are, hoping to set up a communications network in the province that will be based on a computer data, and access to it will be through computer terminals, but this will be very simple access and we are hopeful that this will be a really viable communication network, not only for supplying the information you are seeking, but also from our point of view seeking out the structure of the information we are receiving, and this will facilitate very much the idea and the report writing phase. We are taking a leaf out of the book of the Watergate Senate hearings and hopefully we will leap-frog them. This Commission is the only group, as a matter of fact, who have made enquiries relating to those Senate Hearings as to how the information was handled, so we are very conscious of this problem. It is one of our very high priorities.

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I am sure that one or two of my colleagues will wish to have clarification on some of the other points you raised.

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MR. COSTELLO: On page 6, item 7, it is interesting to name the results of your study on production and heating costs --- when will your study



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1 be completed?

2 MR. PETERS: I would like to point out
3 that this isn't our study, but it is another study by
4 HUDAC. I think they have contracted out a consultant
5 to do this and I think their results are to be - this
6 week perhaps.

7 MR. McCAGUE: Mr. Peters, it is quite
8 apparent one of the main issues coming forth is
9 public participation. In that connection, we suggest
10 that following the preliminary round of meetings, a
11 series of well differentiated energy futures be
12 presented publicly to the people of Ontario. Are
13 you thinking in terms of a second series of
14 preliminary hearings, that would be public?

15 MR. PETERS: I am thinking more in
16 terms of what Dr. Porter was mentioning just now about
17 the actual presentation of the complete scenarios, and
18 I think perhaps directly after the preliminary hearings
19 it is premature, but perhaps before people have a
20 chance to take part in the main hearings, there could
21 be -- or soon after the first round of hearings, we
22 understand, there may be two or three run through the
23 province. Maybe after the first or second, there is
24 a final group of scenarios that people can make a
25 choice over.

DR. STEVENSON: Mr. Peters, I think a
number of things you say - one of them at the bottom



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1 of page two, you suggest that if any public interest
2 group wishes to retain expert advisors during the
3 preparation of their brief, that the Commission should
4 hire the experts chosen by the group rather than have
5 the groups negotiating with those experts themselves.
6 Are you suggesting this in lieu of the option of the
7 Commission simply assisting them or financing these
8 groups for some specific reason, based on your own
9 experience?

10 MR. PETERS: I think in our experience,
11 if someone needs an expert for a short period of time,
12 two or three weeks, this is the only outlet of money
13 that they may have to put out, than if they have to
14 go through all the process of negotiating. Whereas
15 I think it was in the case of the Solandt Commission
16 where the Commission hired an expert of the choice
17 of the group for a certain length of time and lent
18 him to the group for a certain length of time. That
19 is what we were trying to say there. It would be
20 more convenient for the public interest groups if it
21 was done that way.

22 DR. STEVENSON: I would like your
23 reaction to a matter that we have been giving some
24 discussion to and that is the question of having a
25 counsel paid by the Commission, but at the disposal
of public interest groups and individuals who would
like to have some legal counsel and assistance in the



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1 preparation and the presentation of their point of
2 view. Would you think that it would seem to be -
3 that person could be seen to be sufficiently
4 independant of the Commission and presumably of the
5 Government, to be able to operate effectively. Do
6 you think it would work?

7 MR. PETERS: I think so. I think so
8 in the same way as here. If the person who was
9 retained was someone who had either been put forward
10 by several of the groups or say, someone from the
11 Canadian Environmental Association or a similar
12 independant body in Ontario, then I think it would
be a very good idea.

13 DR. STEVENSON: Perhaps my last question
14 had to do with your comments about whether or not
15 the Commission ought to try to establish the level of
16 energy consumption, which is in some sense, adequate
17 or equitable in a global sense. I'm left a little
18 bit up in the air about that comment. Could you
elaborate?

19 MR. PETERS: I don't think there are
20 any specific levels that are sort of being thrown
21 out at all. I think there is some sense in -
22 especially programs like the United Nations
23 environment program - that are looking at levels
24 of impact on the environment and levels of consumption,
25 which in some ways could be a guide to nations which



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have a high energy consumption. We are just perhaps kind of asking the Commission to look outside Ontario to other countries or organizations to enquire in that level to see what their views are.

DR. STEVENSON: We have had a number of people point out to us the fact that Sweden and Norway and Denmark in particular, seem to be able to get along with half the per capita energy consumption of Canadians, without obviously suffering by way of their standard of living. It is most appropriate, I am sure, that we try to come to grips with this phenomenon and see if we can learn a bit from the Scandinavians. How do they do it - what do they give up and what, if anything, do they have to tell us presumably wasteful North Americans to conserve our society. I am hoping that Pollution Probe and Energy Probe who I believe to be much closer to the literature here than we are, and perhaps than the Government is, would be of particular assistance to us in reviewing that experience. Is that a reasonable hope?

MR. PETERS: I hope so.

THE CHAIRMAN: Mr. Peters, just one final comment on your suggestion about a cross province communications network for public interest groups. As you may know, we have already initiated this in a meeting on October 3rd to get groups together to ascertain their commonality of interest



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so that there may be a possibility of groups getting together as consortia and thereby strengthening their own research efforts through the co-operative ties between them. So this is very much in the horizon.

MR. PETERS: Thank you.

THE CHAIRMAN: As thank you very much for coming along, Mr. Peters.

THE CHAIRMAN: Professor Rogers? Dr. Rosehart just became the father of a 10 lb. 6 oz. daughter twenty-four hours ago hence his absence from the proceedings this afternoon. Professor Rogers, as many of you know, is making quite a name for himself in the field of Electric Power Planning with a special reference to the management of thermal waste and we are delighted you could come along this afternoon.

RECOMMENDATIONS OF THE INTERNATIONAL WORKSHOP

ON LOW GRADE HEAT - per PROFESSOR ROGERS.

PROF. ROGERS: This is a brief, not on behalf of our energy research group at Carleton, but on behalf of the International Workshop on Low Grade Heat, which took place about a month ago in Chalk River in which we brought together experts from Canada and other countries in many fields including agriculture, fisheries, economists. We had engineers and many other people looking at the problems of utilization of low temperature heat, particularly in Canada. Perhaps the title Low Grade Heat was rather



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an unfortunate choice, because people began to refer to it as a Low Grade Workshop, so I try to ensure that I insert Heat always.

---LAUGHTER.

The workshop was sponsored by Atomic Energy of Canada, the Department of Energy, Mines and Resources, Environment Canada, and the Ontario Ministry of Natural Resources. At it's final plenary session, the participants reached a consensus on a number of recommendations to policy makers in Canada. I should emphasize these recommendations represent the views of the participants as individuals and not necessarily those of their organizations, nor of the sponsoring organizations. They appointed an ad hoc committee to bring these recommendations to the attention of energy policy makers as well as the public and it is in that role that I am appearing here today.

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There were three areas in which the recommendations were made. First in the area of energy policy, second, in the area of optimum utilization of fuel by electric utilities, and third, district heating. All of the recommendations pertained to some extent at least to the responsibility of this Commission. In the area of energy policy, we believe that Governments, all levels of Governments not only the Federal but the Provincial and Municipal Governments as well, must provide some degree of



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2 leadership in developing and implementing energy
3 policy. This action is particularly important
4 considering in particular the forthcoming imbalance
5 between domestic supply and demand of petroleum and
6 natural gas, the rising cost of these fuels and the
7 critical shortages of capital. We, therefore,
8 recommend that all levels of Government develop and
9 issue a clear public statement on the energy policies
10 with reference to level of demand, adequacy of supply
11 at reasonable cost, efficiency of energy utilization,
12 and the protection of the environment and public
health.

13 In the area that was of major interest
14 to the Workshop, we recommended a survey be undertaken
15 to identify types and magnitudes of low grade energy,
16 low temperature energy, locations and levels of
17 utilization, and we recommended that encouragement be
18 given in the form of financial incentive, as required,
19 to foster more effective utilization of this energy.
20 This is a general recommendation, not specifically
21 mentioning electrical, but the next two recommendations
do home in on electrical concerns.

22 The second one has to do with the
23 optimum utilization of fuel by electrical utilities.
24 Almost all of the utilities of Canada, now producing
25 electricity, do not provide heat, whether low
temperature or high temperature, for potential users.



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2 The optimum use of fuels in such plants can be
3 obtained by the production and sale of heat at various
4 temperature levels, as well as by electricity, as has
5 been demonstrated in Europe in many places. In
6 addition, this procedure permits the substitution for
7 heating purposes of low cost and readily plentiful
8 uranium and coal for rapidly depleting petroleum and
9 natural gas. We, therefore, recommend that electric
10 utilities be made responsible, wherever possible, for
11 the optimum use of fuel by combined production of
12 electricity and heat and that Government establish
13 mechanism to ensure that this objective can be
14 accomplished. If necessary, appropriate regulatory
15 agencies should be directed to require that all
16 institutions involved co-operate to this end.

17 Our third and final recommendation
18 has to do with district heating. This is one of
19 the most promising large scale applications of
20 low temperature heat from our plans and, indeed, it
21 could in addition to providing direct heat for a city
22 or a portion of a city, it could provide heat
23 requirements to industries and perhaps even to
24 agricultural, for instance in grain houses, and
25 agricultural projects. The technology for such
systems has been very well developed in Europe, but
a demonstration of the economic and social feasibility
of such large scale district heating systems, I think



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2 it is required in Canada. We, therefore, recommend
3 that appropriate government bodies co-operate with
4 utilities and initiate demonstration projects of
5 district heating systems. Industrial and agricultural
6 demonstration projects should be incorporated into
7 these district heating demonstrations wherever
8 possible. Consistent with our earlier recommendation,
9 the district heating demonstration projects should be
10 provided with thermal energy from combined purpose
11 power plants wherever feasible.

12 We further recommend that long range
13 studies be initiated to examine the development of
14 district heating systems in Canadian cities and to
15 establish the potential for fossil fuel savings,
16 reduction in air pollution and integration with
17 nuclear power plants. Thank you very much. I would
18 be pleased to try and answer any questions.

19 THE CHAIRMAN: Thank you very much,
20 Professor Rogers, for an extremely interesting
21 submission.

22 Part of the Commission's job, especially
23 at this stage, is educational and, maybe, you won't
24 mind if I just spend about one minute explaining the
25 concept of getting thermal energy in addition to
electrical energy from a central power station. Many
of you will know that all electric generating stations
using either fossil fuel or nuclear fuel by their very



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2 nature of the process, by the laws of nature, as a
3 matter of fact, must get rid of a certain amount of
4 heat. Now, unfortunately, Professor Rogers has said
5 this is a reasonably low temperature level, so to take
6 the Pickering Power Station, you get an increase - the
7 cooling water fed into the plant - the temperature is
8 raised by about, I think it is 11 degrees Celsius,
9 about 20 degrees Fahrenheit. This means that it is
10 just too cool to do much useful work, although again,
11 as Professor Rogers has pointed out, it could be used
12 to heat greenhouses and so on. You see there is a
13 vast amount of energy there, although the temperature
14 isn't very high, there are millions of gallons of
15 water, I believe, passing through this system in
16 twenty-four hours. So, there is a vast amount of
17 energy, but unfortunately, because the temperature,
18 which isn't very high, it is difficult to use it.

17 Now, Professor Rogers and his colleagues
18 are suggesting that we should look into the possibility
19 of these stations being designed with a dual purpose,
20 one to create thermal energy, and that is to bleed off
21 some of the steam, say, which would normally go on to
22 generate electricity, so that you have got a much
23 higher temperature than you would normally have, if
24 you just go to the generation of electricity alone.
25 So, what he is saying is perhaps to use some of this
energy utilized, this energy as thermal energy, and



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some as electrical energy. This concept, as Professor Rogers has pointed out, is being used in, I think, West Germany and in Sweden and he has recommended the Commission explore that area. I don't know whether I have clarified this at all, but this is the area that Professor Rogers is in.

MME. PLOURDE-GAGNON: What do you mean - do you mean according to you for the time being, the electrical network is less efficient, or is it the use of it by Hydro or by the public - that would not be efficient. Could you clarify that? What do you mean by a more efficient use of energy?

PROF. ROGERS: It may be a very simple question, but perhaps the French is too complicated for me. I don't know whether I understood your question, but it had to do with the efficiencies of utilization of energy in electrical utility networks; is that the general field of the question?

MME. PLOURDE-GAGNON: Yes.

PROF. ROGERS: Well, as Dr. Porter was saying earlier, by the inherent laws of nature, if you have a pure electric system burning fossil fuels or nuclear fuels, the efficiency is limited by, well, specifically the second law of thermodynamics. And with certain temperatures of operation there is an upper limit of efficiency that you can get and the net result is most systems operated with fossil fuels



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2 and nuclear plants have efficiencies in the range of
3 thirty to forty percent. Of course, if you have a
4 hydro electric system, you are not burning fossil
5 fuels and you don't have that restriction on
6 efficiency. Where you have a hydro electric plant
7 from the initial energy in the water, your overall
8 efficiency might be eighty percent or so, including
9 transmission losses. What could be done with the
10 combined purpose plants, which Dr. Porter has
11 mentioned, is that we could first of all use some
12 of the higher temperature heat to produce electricity
13 and bleed the steam off at some appropriate
14 temperature to use for thermal purposes and the
15 overall effective use of energy from that plant might
16 go up from thirty percent to say, sixty percent. In
17 other words the energy you put into the plant, you
18 get some useful result out of sixty percent of it,
19 rather than the thirty percent, if it were a straight
20 electrical plant.

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22 MME. PLOURDE-GAGNON: When you mention
23 the energy efficiencies, who wastes the energy. Is
24 it Hydro or the public? Where can we see the energy
25 savings, from Hydro or the public? Is it a matter of
utilization?

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27 PROF. ROGERS: Well, I would feel that
28 as far as utilization goes, it is both. The public
29 can save and utilities can also save.



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2 DR. STEVENSON: I am just repeating
3 the Workshop that you participated in, in a couple of
4 ways. One is, I come from Toronto and there has been
5 a very large study of district heating in Toronto,
6 the results of which I would ask you to summarize.
7 I am sure you are more familiar than I. It was a
8 formal looking project, about six inches of reports.

9 PROF. ROGERS: Well, I am no expert
10 on Toronto district heating, but I believe the
11 conclusions of the report was there are at present
12 about seven small district heating systems in downtown
13 Toronto and the conclusions of the report were that
14 it would be economically feasible and attractive to
15 integrate these systems and extend them into a certain
16 core region where the density of utilization was high
17 enough that this would require it to be effective,
18 restricting it to this core region and also requiring
19 all buildings over a certain floor area to connect to
20 the district heating system. If this were done, it
21 has indicated economic feasibility. It also has a
22 very important side effect. Now, to the extent that
23 it may help in Toronto, I am not sure, because a lot
24 of heating is natural gas, but it is to the extent
25 that it would reduce local burning of fuel oils, it
would certainly help as far as air pollution goes.
This is found very definitely in Sweden where there
is very little heating by natural gas. But, in the



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2 cities, there is a direct correlation between the
3 amount of district heating in the city and the
4 purity of the air, as far as SO₂, and other matters
5 are concerned. So, I believe the results of the
6 study were positive in the sense that it looked
7 feasible. It obviously requires a fairly high
8 capital investment and this is one of the problems
9 with district heating, the large capital investment,
10 but the payoff over the life of the system is quite
attractive.

11 DR. STEVENSON: Another question on
12 the same general subject is this. I think we can
13 probably expect that the Atomic Energy Control Board,
14 here in Ottawa, is going to require that there be
15 maintained around nuclear power plants some sort of
16 of a corridor in which no residential construction is
17 permitted, so, right off the bat, you face the problem
18 of the condensing water, already not very hot, and the
19 condensor having to cross the corridor, presumably in
20 a well insulated pipe, but it has some distance to
21 travel, making it therefore a little bit of a problem,
22 but even for fossil stations, nobody wants to live
23 close to a coal-fired station no matter how efficient
24 the precipitate and sulphur dioxide removal may be.
25 There's always some noxious waste in the air. There
seems to be an inherent problem in other words.



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3 District heating would seem to be most successful if
4 you could locate power stations immediately adjacent
5 to residential areas, but on the other hand, nobody
6 wants to live beside a power station.

7 PROF. ROGERS: Yes, this is certainly
8 one of the dilemmas of district heating and, of
9 course, it is tied up with the large capital costs
10 of installing pipe over a long distance to get from
11 the remote power plant to a central area. I don't
12 think many generalizations can be made in this area.
13 Each case will have to be analyzed on its own merits
14 but, in the actual length or the distance from the
15 power plant to the farthest point in the district
16 heating systems that have evolved in Europe, is
17 sometimes quite long. There are plans for the system
18 in Stockholm. There are three major district heating
19 systems in Stockholm that are eventually going to
20 integrate and at that stage they anticipate a large
21 nuclear station providing the base load for the
22 district heating system and this will have distance
23 up to 40 kilometers. There is a system in Iceland
24 which has a distance from the power plant to the
25 end of the system of about 20 kilometers. There is
also a one-way system in the U.S.S.R., one-way in
that the water, after it has heated the building,
does not return, which is not really a very efficient



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3 thing to do as far as energy conservation is concerned,
4 which is a 100 kilometers long.

5 Now, I think that the distances are
6 large enough in systems that are now operating to
7 suggest that reasonable distances could be covered
8 and admittedly this is going to increase the capital
9 cost, which I mentioned is already a problem. But,
10 again, we have to weigh the costs and the benefits
11 of alternative systems.

12 MR. COSTELLO: Professor Rogers, do
13 these systems in Europe - are they a low value of
14 waste heat systems or are they actually steam, or
15 a combination of both?

16 PROF. ROGERS: I should have taken up
17 the point that Mr. Stevens mentioned here. Dr. Porter
18 made the point here too. We are not talking about
19 the condensate cooling water because it is too cold
20 to do any effective heating. We are talking about
21 bleeding steam off at appropriate points of expansion
22 in the turbines and using it at those temperatures.
23 This is what is done in all of these systems in
24 Europe. Most of these operate on a hot water system.
25 They bleed the steam off the turbines and put it
through heat exchangers to heat up water which is
then pumped out and back. Of course, this scheme is
not unfamiliar in industry to some extent, because



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3 many industries use a combination of turbine and
4 back pressure or bleed turbine to provide thermal
5 energy in the industrial plant.

6 MR. COSTELLO: There is one system in
7 New Brunswick.

8 PROF. ROGERS: That's right. There is
9 also one in Nova Scotia at Glace Bay - Port Hawkesbury.

10 THE CHAIRMAN: Thank you very much indeed
11 Professor Rogers for a most interesting and stimulating
12 contribution. Good luck in your future research. We
13 are very sure we'll be hearing more about you as the
14 work of the Commission proceeds.

15 THE CHAIRMAN: Mr. Askwith. I have you
16 down, Mr. Askwith, as being associated with Ontario
17 Hydro.

18 MR. ASKWITH: That is not correct, sir.
19 I am General Manager of the Hydro Electric Commission
20 of the city of Ottawa.

21 THE CHAIRMAN: I see. That is what I
22 thought.

23 SUBMISSION BY THE OTTAWA HYDRO ELECTRIC

24 COMMISSION - per F.L.G. ASKWITH.

25 MR. ASKWITH: I am privileged to have
the opportunity of appearing before you today on
behalf of my Commission. You already have, I believe,
copies of my written brief and my only regret, sir,



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is I wasn't able to attend the meeting you conducted last night prior to writing my brief, because, I am sure that some of the things you brought forth would have influenced what I have submitted to you. But, nevertheless, I think what I have given you is indicative of my point of view which I am sure you will find quite different from those you have heard this afternoon. My submission is short, at the request of the staff and due to the preliminary nature of your hearings. I would like to reserve the right, sir, however, to appear again at subsequent hearings and to submit more comprehensive and detailed submissions from time to time as we may see appropriate.

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The duties of my Commission, sir, are quite simple. We are charged primarily with the responsibility of providing adequate and reliable electrical service to the citizens of the Cities of Ottawa and Vanier and the Village of Rockcliffe Park at cost. The terms of reference are quite simple. The carrying out of objectives are perhaps not quite so simple. We must plan, design, construct, operate and maintain a complex distribution system to effectively convey the energy purchased from Ontario Hydro to the premises of our customers throughout the service area. Annually we must extend and re-



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inforce that system to provide service to residential and commercial - industrial developements and to anticipate and provide for future increasing demands placed on the system by our users.

You mentioned last night, sir, that you could see from your hotel room a vast panorama of new construction in the centre of Ottawa and I assure you that this is only a small part of what is going on. I have four projects on my desk at the present time which we will be building over the next five to fifteen years and which will aggregate some 200 megawatts. Specifically I am referring to a model community announced by our Mayor just last week, the Eastern Community, which will require something of the order of 60 megawatts. The western counterpart of this is already under construction. We have a very comprehensive downtown developement known as the Rideau Centre, comprising 150,000 square feet of retail and office space, a major hotel, and a closed pedestrian mall. We are looking for another 30 megawatts perhaps in this area.

The history of our Commission has seen a steady increase in the demand for electrical energy since the inception of the Commission in 1915. I have provided some of the information showing the record of the last ten years and I can assure you

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that the trends of 6.3% increase in demand and 8.7% in energy usage is consistent as established from 1950 on. I would not like to leave you with the impression, however, that we design our system on any historical trend. We design it on the basis of the information we have on hand in respect to new developements, such as I have already mentioned.

There are those that claim that Hydro creates it's own demand and then proceeds to fill it. To that I would say that such a claim is not supported in my view by any evidence. The demand as far as we are concerned is established by our customers and the citizens of our service area and our sole mandate is to supply their needs. We have no control whatever over their requirements, nor have we any right whatever to attempt to exercise such control, legally or otherwise, other than by persuasion and guidance of the advisors of the energy which we supply.

In short, the use of electricity has shown consistent annual growth through the history of our operations and there is not the slightest evidence at this time to indicate otherwise for the future. In fact, I think an examination of the information I have given you - there was actually a higher increase in the last year or fifteen months. More and more we are becoming aware of the fact that



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many of our customers are showing increasing interest in converting to electrical methods for heating and other uses. With the increasing costs and the implications of scarcity of fossil fuels in the future, we must assume, we have no alternative but to assume this trend will continue in the years ahead. We must, therefore, look to Ontario Hydro annually for an increase in our supply of power.

It is our conviction, therefore, that the developement of new generating stations and adequate delivery facilities must proceed without delay to insure essential services to the well-being of our community. Anything else would be pretty horrendous to contemplate.

I am old enough, sir, to recall the chaos of 1947 through 1949, when because of the fact that new facilities were not constructed during the war, supply fell short of need. Brown-outs and interruptions were frequent occurances and certainly not well received by the public at that time. It was many years of very considerable effort on the part of Ontario Hydro before the system developed to a secure level. I have mentioned the public were concerned and upset at the time by the problems I have outlined. I think that they would even be less tolerent today when so many more of our essential needs are dependant



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on electricity. We in the industry, I would say, are much closer to our customers than anyone else in this respect. We are very well aware that they are very sensitive to any interruption or any interference to their supply of power. There is some difficulty in getting them to come out to public meetings such as this one, or having gotten them out to have them participate. I can assure you that they are instantly and vocally on the other end of our telephone lines when the services affect our system, and this is exactly as it should be. It is our responsibility to ensure a continuous supply of power to them and, hopefully, in this regard, I make this submission today.

I believe it would be very useful, sir, if it could be somehow arranged that the members of this Commission could perhaps attend in the operations area of an electrical utility, when such disturbances are on, and you would see first hand the public reaction to them. Ten years ago we had the great Northeast Blackout. A week ago, on November the 8th, we had another very severe blackout. We received a thousand calls in twenty minutes as a result of that disturbance and, fortunately, it was not of great duration.

We are concerned, sir, about the



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2 multiplicity of enquiries and investigations and
3 hearings into the affairs of hydro in Ontario, and
4 reviewed the work of Task Force Hydro on the hearings
5 before the Ontario Energy Board and the protracted
6 hearings of the Solandt Commission, and I don't think
7 any of us in the industry could object to any of
8 these or argue that they are not necessary and
9 desirable. There is mounting evidence, however, that
10 delays in planning and constructions engendered by
11 these proceedings have already jeopardized power
12 supply in the years ahead and, without doubt, have
increased costs.

13 The pattern of growth in the Ottawa
14 area is repeated across the entire province. Ontario
15 Hydro, therefore, must make long range forecasts to
16 carry out continuous long range planning. I must say,
17 that I have been impressed over the years with the
18 remarkably accurate forecasts which they've made.
19 The time frame is such that generating stations and
20 necessary transmission facilities conceived today
21 will not be in service until the mid-80's, well within
22 the terms of reference of your Commission. We are
23 concerned that the failure to provide the needed
facilities with all despatch will have dire consequences
in the years ahead.

24 We live in a province largely lacking
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in indigenous fossil fuels for direct use in our homes and our offices. In my view our future well being depends upon extending and improving our electrical power system. In a climate like ours energy for heating is essential to our very survival.

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Mention was made last evening a couple of times of Aristotle. I guess I would have to concede to being a technocrat - that term was used last night a couple of times too but even technocrats know a little bit about ancient philosophers. I would say that Aristotle had something not in common with the people of Ottawa and the people of Ontario. Lack of energy in ancient Greece was not likely to cause Aristotle to freeze to death. This is not true of this climate.

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I don't know that we are tackling this problem from the right angle. It seems to me that perhaps there are more reasons to persuade and educate people to restrain their use, and this would immediately have the effect of reducing the demand on the power systems. To restrict the development of a power system to achieve the same result in my opinion could be catastrophic. It could well be that one of the recommendations of your Commission would be to restrict the development of power systems. If this is to be, and if there should



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2 result a power shortage, I hope that your Commission
3 would develop a means of dealing with these results.
4 I sometimes have nightmares about the predicaments
5 our customers get into when there is a problem with
6 our system. I hear of customers with patients on
7 dialysis machines, patients at home on electrically
8 driven respirators. You can't help but think of
9 senior citizens who are in senior citizens' residences,
10 with elevators, or lack of heating, perhaps, and I
11 just wonder how these people would fare if we are
12 unable to fulfill our obligations.

13 Mr. Chairman, I think the task of
14 your Commission lies in planning the course ahead.
15 I believe the need is extremely urgent. Sir Winston
16 Churchill said in an address on another subject in
17 January of 1940: "Let us go forward together" ---
18 "There is not a week nor a day, nor an hour to lose".
19 I think this may well be appropriate to our energy
20 situation in Ontario today. Thank you very much.

21 THE CHAIRMAN: Thank you very much, Mr.
22 Askwith.

23 I recall Sir Winston Churchill's
24 address very well. I recall also at that time that
25 belt-tightening was very much to the fore in Britain,
and the use of energy per capita, I suspect, was
considerably more than it is today, not least the



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2 use of energy per capita in the way of food. The
3 rationing had just about started then.

4 Thank you very much for this submission.
5 I am sure that Bill Stevenson will like to comment on
6 it. Bill?

7 DR. STEVENSON: Just one subject area
8 out of many, I might ask you about, and that is the
9 subject of energy conservation. Your comment that
10 you don't think that it is the role of Ottawa Hydro
11 to exercise control over the requirements of your
12 customers is consistent with that of Ontario Hydro,
13 at least as a policy statement of Chairman Taylor,
14 in the Globe & Mail this morning, would suggest.
15 In a speech yesterday, Mr. Taylor said:

16 "Ontario Hydro is prepared to reduce
17 it's expansion plans, but not to act
18 as a rationer in an electricity
19 shortage. ---

20 "Hydro itself is actively promoting
21 energy conservation to that end, and
22 higher and more realistic prices for
23 electricity, if they are permitted,
24 may help curb the growth of consumption.
25 But surely no one expects a delivery
agency like Hydro to act as a controller
or rationer."



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2 All right, that's fine. Then, you say that you do feel
3 that it is your obligation to persuade and to guide your
4 customers in a wise use of energy I wonder, if you
5 could perhaps tell the Commission, how you are going
6 about that. In specific case, I'd like you to discuss
7 your policy for the bulk ^{metering} / of all-electric
8 apartment buildings.

9 MR. ASKWITH: I will do what I can,
10 Dr. Stevenson. As far as the process of persuasion,
11 I would say we are, in fact, following the lead of
12 Ontario Hydro in this regard. They, I am sure you
13 know, have dropped completely back from any sort of
14 promotional stance. They are attempting to, by
15 means of advertising brochures and whatnot, to suggest
16 to people ways and means of more efficient use of
17 energy such as house insulation, attention to dripping
18 hot water taps, possibly the means of reducing
19 temperature in homes. There are a variety of things
20 that can be done, a wide variety of things that can
21 be done and we are trying to do these kinds of things
22 in addition to another series of efforts that we have
23 made that far predate the present circumstances. We
24 have always co-operated with our industrial and
25 commercial customers in dealing with means of power
factor corrections, with means of heat recovery
systems for large apartment buildings and, in short,



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3:46 3 we are quite prepared and have been quite prepared to,
4 in my years with Hydro, to sit down and consult with
5 our customers to find how he may reduce his use of
6 power and to obtain the greatest possible efficiencies
7 from it.

8 The matter of bulk metering of
9 apartments is one which has come to the fore just
10 recently. I would be the first to admit it is very
11 difficult to have any real measure of control where
12 the customer is not directly responsible for the
13 electricity bill. At the time that the policies of
14 bulk metering were arrived at, other considerations
15 were predominant, namely capital cost, from both the
16 utilities point of view and the developers point of
17 view. There were a lot of secondary problems which
18 were very difficult and we have some prime examples
19 of large apartments built in this city maybe twenty
20 years ago where the electrical contractor didn't pay
21 quite enough attention to how he wired the place and
22 we had one devil of a time trying to sort out whose
23 meter was really whose load. From that point of
24 view, we were rather delighted to get away from that
25 kind of thing. Another very practical problem that
we were faced with was that in the last twenty years
many apartments were built which comprised large
numbers of bachelor suites. Bachelor suites in many



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3 of these apartments were rented on a very short term
4 basis, probably without a lease. We had the
5 continual problem of finding that we were sending
6 bills to customers who were the third in line, with
7 no feasible way of figuring out where the other two
8 had got to. From an operational point of view we
9 were rather pleased with bulk metering, from these
10 points of view. But, I would be the first to admit
11 that under today's circumstances, that this kind of
12 thing would have to be given another look. I don't
13 know how you do get around some of the problems,
14 but I think we have to look at them and see if there
15 is a way.

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17 DR. STEVENSON: Do you have any idea as
18 to the reduction in, let's say, in a percentage basis,
19 a reduction in the electrical consumption that you
20 might expect if you individually metered a large
21 apartment complex that was formally bulk metered.
22 Have you any feel for that?

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24 MR. ASKWITH: It would only be a wild
25 guess. I think it would be in the order of 25%, but
that's right off the top of my head.

DR. STEVENSON: It is one of the trade-
off areas, isn't it, that we have to consider?

MR. ASKWITH: That's correct. The other
problem here is that if it were decided that bulk



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2 metering is not appropriate, how do you go back to some
3 of the buildings in existence and convert? It is a
4 very difficult problem. Most of them are reinforced
5 concrete. There are no hollow walls to feed wires
6 through and it could be very expensive and perhaps not
7 a practical thing to do in many cases.

8 THE CHAIRMAN: Thank you very much.
9 That's a very interesting submission, Mr. Askwith.

10 Ladies and gentlemen, we have reached
11 the coffee break. But we also are about a quarter of
12 an hour behind schedule. It has been suggested that
13 we skip the coffee break. Now I don't know what the
14 consensus is on this, but I'll be guided by your
15 wishes. I don't know - I only have my experience to
16 go by, but coffee is rarely allowed in chambers of
17 this kind. It get's spilled on carpets. If perhaps
18 the Commission doesn't quite question - as we have
19 been doing - we will succeed in meeting the deadline.
20 So, could we perhaps have Andrew Michrowski?

21 SUBMISSION BY MR. A. MICHROWSKI.

22 MR. MICHROWSKI: I will be very brief.
23 I will just read straight from my brief and I think
24 you will be interested in some questions. I have
25 some evidence to my brief, which unfortunately has
not been delivered to you yet. I will just read off.

"Even utilizing what known electric



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2 energy resources we presently have today, we are
3 not very efficient in the following aspects of
4 electric power planning and delivery:

5 1. Transmission: Up to ten percent of the electrical
6 energy produced is lost in transmission through wires.
7 Up to eight percent is used up by the utilities in
8 order to provide service.

9 2. Capital Expenditures: An ever increasing and
10 exorbitant amounts of cash are tied up on such
11 expenses as wiring, transmission towers, various safety
12 devices and sub-station estimates, annual capital
13 expenditures are now amounting up to \$250,000 per
Hydro employee in this sector alone.

14 3. Perturbation on the Environment: Site and right
15 of way disturbances, radiation from transmission are
16 very common features of our present day power delivery
systems.

17 "In view of such deficiencies, would it
18 not be worthwhile to revitalise a major scientific
19 discovery made by Nikola Tesla in 1899, that is, the
20 discovery of how to transmit electrical energy without
21 wires. In this system, only .2% or less energy is
side 2 22 ever lost, with transmissions of many thousands of
23 miles possible. Marginal expenditures are required
24 to set up sending devices, which send through very
25 safe beams under the earth, electrical energy to



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3:50 3 predetermined receivers, say from dam sites to major
4 distribution nodes. There is no danger of short
5 circuiting, no danger from weather disturbances or
6 of environmental impacts. Evidence to support these
statements is respectfully submitted.

7 "Nikola Tesla, who embarked this world
8 onto the electrical age as we know it now, was himself
9 a major instrument of the harnessing of the Niagara
10 Falls (which was his first project) and of the
11 transmission of electricity through the AC, high
12 voltage method from Niagara to Toronto. As a matter
13 of fact, one of the forerunners of the Ontario Hydro
14 (I don't remember the name, but I think it was the
15 Canadian Electric Company) offered him power for
wireless transmission to New York City in 1901.

16 "I respectfully implore the Ontario
17 Hydro to set up such a system, to the great
18 advantage of electrical power users throughout the
19 province."

20 This is the end of my brief.

21 THE CHAIRMAN: Thank you very much
22 Mr. Michrowski.

23 Nikola Tesla, of course was the man
24 who invented the Tesla coil, wasn't he? What you
25 are suggesting here, is that perhaps electric energy
could be transmitted by microwave - on what frequencies



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3:51 3 are you talking about?

4 MR. MICHROWSKI: No - if you are
5 interested in some details, I can give them to you.
6 The range of frequency was from around 50 hertz to
7 100 kilohertz, that's the way it was done, what is
8 now called very low frequencies. But, the thing was,
9 and I don't have this - I have a patent which describes
10 the machine and I also have the photograph which shows -
11 well, one such machine that Mr. Tesla did put up in
12 Long Island, and the thing was - the secret of the
13 thing was to manage to concentrate these frequencies
14 which he felt were the most appropriate at very very
15 high voltages - unbelievably high - about two hundred
16 million volts - into a into a very kind beam which
17 believe it or not, and I believe it because I've seen
18 it, is forty times more precise than a laser beam.
19 Now, this is a very fine wave and it can go right
20 through the earth and be reflected by -- what he
21 did he created a North pole where he was and he sent
22 it to the South pole on the other side of the earth
23 and it went back again and it was very fast - the
24 speed of light. So he had this method of doing it and
25 it is described in a different language than we are
used to today in this patent. He had a patent because
this thing did work. The only reason why it has not
been put into function, unfortunately, was that John



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3 Pierpont Morgan subsidised this, and Morgan, as you
4 may know, was a very important financier, and when
5 he discovered the purpose of this, Marconi had just
6 sent his signal across the Atlantic. Tesla told him
7 that this was for transmission, not just radio.
8 Morgan was very angry because he wouldn't charge the
9 wiring industry and the steel industry, and there was
10 no money that could be made any more. But, I think
11 today we are in a rut - energy in the material part
12 aspects of steel and so on - so we should perhaps go
13 back to the whole idea.

14 THE CHAIRMAN: Well, thank you very
15 much for your suggestion. I must confess that I
16 personally do not understand it, but I am by no
17 means an expert in these areas. Thank you very much
18 for bringing it to our attention.

19 I think, ladies and gentlemen, perhaps
20 we might break for coffee. Perhaps if we could make
21 it about 10 minutes if we can, and give the Commission
22 a chance to meet some of you.

23 ---COFFEE BREAK

24 ---UPON RESUMING

25 THE CHAIRMAN: Is Mr. Robert Gibson here.

SUBMISSION BY THE WORKGROUP ON CANADIAN ENERGY

POLICY - per MR. ROBERT B. GIBSON.

MR. GIBSON: I believe you have copies



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3:53 3 of my brief. It is perhaps unfortunately somewhat
4 long. I am willing to read it if you would like to
5 have it in the transcript or if you feel that it
6 would be of interest to the other parties. However,
7 it is long and you seem to have scheduling problems,
8 I would be willing to just mention a few things in it
and add changes.

9 THE CHAIRMAN: How kind of you, Mr.
10 Gibson, if you could paraphrase it to some extent that
11 would be much appreciated.

12 MR. GIBSON: Fine. What I would like
13 to do is say a few things and mention where I would
14 like to make some slight changes, and perhaps raise
some other related points.

15 Initially, I'd like to say that while
16 this brief and some of the comments are intended to
17 give constructive recommendations and suggestions
18 to the Commission, it should be emphasized that I
19 think that the Commission has done an extremely
20 excellent job generally in setting out what it means
21 to do and adopting a general approach to it's path,
22 especially with regard to holding preliminary hearings
23 like this and emphasizing breadth and comprehensiveness
24 in their approach and expressing what appears to be
25 a genuine, somewhat novel, dedication to public
participation. I am also impressed by the efforts,



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3:54 3 that you, Mr. Chairman, gave last night in attempting
4 to provide a philosophic basis for your work. I
5 think this is very important. And particularly the
6 approach you took, emphasizing the objective of
7 adapting technology to meet human needs. I suppose,
8 the other way around, is too often is. I would like
9 to develop this just a little bit in terms of the
10 kind of things I mention in connection with those
11 three or four major corrections in my brief.

12 The brief I have here has three major
13 sections, general considerations as they concern the
14 terms of reference, the means of funding and the
15 approach to the funding of public interest groups,
16 and thirdly the scope of issues that will be addressed.
17 All of these are dealt with in some of your preliminary
18 statements I think the terms of reference - the most
19 obvious thing about them, beyond the quality of it,
20 for example, the comprehensiveness which is clear, is
21 that there are two very different things being asked
22 of the Commission. The first three instructions in
23 your Terms of Reference refer to a broad comprehensive
24 general planning approach you have set out for the
25 future. The fourth instruction is very different.
It requires that you act as if you have already done
this. It requires that you carry out major planning
exercises I think that if the Commission is to do



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3:55 3 this concurrently - these two different activities -
4 that it will damage it's credibility and, in all
5 likelihood, engage in making precedents that it would
6 later wish to avoid making. There are two different
7 things in this. I will try to make them as clear as
8 I can.

9 First of all, it is of crucial
10 importance to the Commission to maintain it's
11 credibility. This is credibility in terms of it's
12 independance from Government and it's willingness to
13 do things in a proper manner as it sees fit. If the
14 Commission engages in the priority project exercise
15 immediately, I think it will be forced into the
16 position of making unfortunate precedents, especially
17 with regard to the kind of activities that ought to
18 take place in assessing need. As I understand the
19 direction given to the Commission by the Provincial
20 Cabinet Minister, the intention of restricting it to
21 the consideration of need was on the grounds that
22 this would reduce the breadth and scope and time
23 necessary for the consideration of priority projects
24 by the Commission. I think this misunderstands
25 what needs mean in this kind of society. Needs can
no longer be meaningfully used in this sense. In
a narrow sense we just talked about specific very
narrow human needs. I don't think it is possible



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3:56 3 to have a very meaningful discussion about how we
4 should approach these projects and whether we in
5 fact should carry them out. What seems to be
6 underlying this is an identity between needs and
7 demands. I think this is false. The Commission
8 is supposed to deal with needs in a broad manner.
9 It should recognize that these needs will include need
10 for environmental quality, for long term viability,
11 for long term social and economic health of the
12 province, and perhaps for the need, more generally,
13 and beyond the provincial boundaries for a more
14 exemplary way of carrying out the major activities.
15 If this is the case, then the approach to needs of
16 priority projects must be very broad and comprehensive
17 and, as I say, difficult. One of the things that
18 would be required for example, for the North Channel
19 project would be a study of environmental impact
20 assessment in the legislation that has been passed,
21 and not quite yet in force, for some reason.

22 In addition to that North Channel
23 project, a nuclear power generating station, raises
24 all sorts of questions related to increased dedication
25 to the nuclear option. This, as we have seen last night
and today and probably throughout your other meetings,
is very contraversial, both in the literature and the
people concerned. Therefore, it would seem to be



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3 necessary, in terms of assessing need in a broad sense,
4 to examine not just the site impacts of this kind of
5 project, but also the general impact in adopting this
6 kind of approach of choosing the nuclear option. If
7 this kind of study is to be undertaken, to reasonably
8 and thoroughly assess this, if public interest groups
9 and members of the public are able to assess the
10 assessments, then a great deal more time must be
11 devoted to the preparation of these hearings than
12 seems to be allowed in the Commission's present
13 planning. I don't think, for example, that it is
14 possible to begin a meaningful and useful enquiry
15 into the need for these projects, particularly the
16 first one, in March or February of the next year.
17 I think it is far too soon. The Commission therefore
18 should delay consideration of this until it can carry
19 out or the proponents can carry out adequate
20 assessment of the impact. This would fit with the
21 other concern that I expressed in the brief that it
22 should set good precedence, that it should act in
23 terms of the conclusion that it has arrived at through
24 its consideration of the more general questions in
25 instructions one to three. This changes somewhat what
I said in the brief. I recommend in terms of the
Commission's possible activity in this that they
should ask the province to rewrite the terms of



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2 reference. This would be discussed more by my
3 colleague Tim Lash, later, the reasoning for the
4 changes we would make in this, since he has just
5 convinced me of this today.

6 Basically, I was thinking one of the
7 more important things the Commission is doing is
8 the general concern and it's general planning. I now
9 think if the Commission is to be effective, if it's
10 recommendations are to be meaningfully adopted, it is
11 going to have to tie them to the carrying out of it's
12 priority projects, and to make something definite and
13 clear, a connection in the public minds and government
14 minds. I guess Tim will probably clarify this point
15 for you.

16 I have some other comments to make in
17 terms of funding of public interest groups. I have
18 stressed in my brief that it is exceedingly important
19 that the Commission retain it's credibility, which I
20 think it has so far maintained in it's terms of a
21 genuine dedication to public participation. Public
22 interest groups, as I have stressed, have a fairly
23 long experience now in trying to deal with official
24 government bodies, Commissions, etc. For many people
25 it has been a very frustrating experience and they
are very sensitive to avoiding further frustration
in this regard. The Commission, should, I think,



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3 not assume the active and useful participation by
4 public interest groups is guaranteed. It should do
5 everything in it's power to make sure these groups
6 are encouraged. Whereas I see the Commission's
7 position, if we are to be realistic about the power
8 of Commissions and cognisant of the history of
9 previous Commissions, I think that we find that
10 Commissions which have been innovative as this one
11 has been so far, have in general disregarded the
12 conclusion, unless they have managed to carry out
13 an especially effective public education activity
14 at the same time. If they have not been innovative,
15 and I don't see this Commission heading in that
16 direction, if they have not been innovative, then
17 there is no point in their convening. This emphasizes
18 the need for a public education aspect, the emphasis
19 of the need for a strong public education aspect in
20 the Commissions preceeding. In this, the Commission
21 can do various things. I think it has tried very
22 hard, and very successfully to do so, particularly
23 with regard to the limitation of the postal strike.
24 But, I think the Commission would be well to recognize
25 that public interest groups are perhaps the greatest
allies, because they have based their strength and
power, their only power, on their ability to convince
ordinary members of the public that their arguments



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2 are reasonable and that they should be supported.
3 Public interest groups have no other support, often
4 no other financial support, in fact. They are experts
5 in this regard and this expertise should be used as
6 much as possible.

7 There is only one final thing I would
8 like to say in conclusion. At the meeting last
9 night, I thought by far the most telling point was
10 that made by George Mathieson, concerning two different
11 kinds of approaches to public participation, that being
12 one one hand, the kind of participation which
13 meaningfully and genuinely involves the public and uses
14 their input in the final conclusions. The other kind
15 of participation would have to be participation in
16 quotes, and is a mere shadow of participation where
17 people were asked to come and say what they wished to
18 say and they are ignored and the conclusions are no
19 different than they would have been if there had been
20 no participation at all. The Commission, I notice,
21 when George was making his point, were nodding
22 vigourously to a person. I find this very hopeful
23 and a good sign. I hope that through their activities -
24 and I hope that through some of the recommendations
25 in this brief, they will be able to strengthen both
their credibility and their independance, and the
respect I think they deserve in the Committee.



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2 Thank you.

3 THE CHAIRMAN: Thank you very much, Mr.
4 Gibson. The point you made about item four, paragraph
5 four, in the Terms of Reference - that has been duly
6 noted. It has been raised on other occasions and
7 obviously it is a very important issue as far as the
8 Commission is concerned and we hope to get as much
9 input as possible on people's views on how we should
10 approach the whole task.

11 Your question relating to financing and
12 so on which you have set out in more detail in your
13 brief, your rather lengthy submission, is something
14 that we are very cognisant of. George McCague has
15 been chairing our task group in this area and he is
16 responsible actually for the document. And the
17 information kit outlining the methodology and so on.
18 I don't know, George, if there is anything you want
19 to add.

20 MR. McCAGUE: Mr. Gibson, there was a
21 discussion last evening and this will have to be
22 determined. We do not know how many applications we
23 will receive. We are very hopeful that the funding
24 will be meaningful in so far as assistance is
25 concerned to individuals and groups. I wonder, should
we be suggesting that these funds be directed to,
let's say, mainly to research and preparation as



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2 opposed to legal counsel? How do you feel about this?
3 Now, we had a little talk earlier about public counsel
4 being available, but would you feel that a good
5 research job done, and a good presentation, that the
6 public and the Commission can pretty well assess it's
7 value and if legal counsel is called on, that the
8 interest groups might consider looking at that end of
the financing more particularly.

9 MR. GIBSON: You raise a lot of questions.
10 I am not sure - I am not an expert of any of them and
11 I'm not sure I am even knowledgeable enough to make
12 comment. With regard to Commission counsel, as I
13 understand it there are more issues than I know about.
14 I would only think that the response made by the
15 gentleman from Probe is probably accurate and that is
16 something to be discussed with the major interveners.
17 I know from experience that in some Commission hearings
18 it is very difficult for people who are in public
19 interest groups to face, on equal footing, a powerful
20 body like Ontario Hydro, for example, which has
21 expert counsel. I don't find lawyers very easy to
22 argue with and they certainly have more experience
23 of this kind than, I think, people in public interest
24 groups often do not have and it is overpowering. So,
25 this question of equal footing is an important point
to be raised there whether it should be counsel that



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2 you people hire and lend out or counsel the people
3 chose themselves and bring separately, I don't know.
4 That would be up to them I would suggest. I am sure
5 that the Canadian Bar and Law Association would have
6 more to say about that. They have far more experience
7 in that area.

8 The second thing that might be
9 considered in this general area is that problems of
10 cross-examining people and all that kind of thing
11 before hearings often get more from someone who is
12 making a presentation if there is a possibility of
13 cross-examining and questioning the evidence or data
14 presented, etc. There is a lot of detail in that and
15 that would depend on the various groups. However,
16 I would suspect, in terms of fairness, if I made a
17 serious presentation on some data, or opinion, or
18 whatever, that contradicted something that they had
19 said, I'm sure they would have expert counsel to
20 cross-examine me to make sure I knew what I was
21 saying and to interpret my words if there was any
22 doubt at all. If public interest groups don't have
23 that same direction, it would be unfair. It would
24 seem to be unfair and there is a lot of frustration
25 because that has happened to a lot of us before.
So, just as a question of reality, there is that
background.



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3 On the other hand, I realise there
4 are limited funds and the lawyers are less than
5 inexpensive. So that has to be considered too.

6 With regard to your first comment,
7 whether I think money should be for research or
8 legal counsel, there is another thing I would like
9 to add there and that is public education, which
10 I think is different, in a way, from both research
11 and the presentation, the legal presentation or
12 whatever. I think that is of crucial importance and
13 should be added to your consideration I wouldn't
14 like to say 50 - 40 or 10%, or anything like that.
15 It depends on the quality of your submission. Perhaps
16 we could discuss between ourselves more about this
17 funding. I have a great deal to say that I can't say
18 in this brief.

19 MR. McCAGUE: Thank you.

20 THE CHAIRMAN: Thank you very much,
21 Mr. Gibson. I can assure you that the Commission will
22 be giving very serious consideration and thank you for
23 coming to present it.

24 Mr. Brian Kelly.

25 SUBMISSION BY THE FEDERAL OFFICE OF ENERGY

CONSERVATION - per Mr. BRIAN KELLY.

MR. KELLY: Mr. Chairman, I will try to
briefly go over the paper that we have already filed



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4:65 with the Commission. It is relatively short. I should be able to get through it in ten minutes to leave some time for questions. I should perhaps say I am from the Office of Energy Conservation in the Department of Energy, Mines, and Resources. We feel it important and worthwhile that we have some input, both in the preliminary hearings in the Commission, and later on we hope, in your deliberations.

"The enormous growth in energy consumption since World War 2 can be described as being 'supply driven'. That is, enormous volumes of different types of energy were being discovered and developed. They were not only low in absolute cost, but, because the different sources of supply were competing with one another, energy prices declined relative to other prices. It was economically rational (at that time) to substitute energy for capital and for labour, and this was done. Combined with the trend toward electrical consumption at the point of final use, the result was a sharp increase in the rate of primary energy consumption -- from a historic growth of two to three percent per year to 5.6% in the 1960's.

"Almost no-one believes that energy will ever again be so completely supply driven. There may be new oil discoveries, there may be nuclear breakthroughs, but we have entered a long term process of



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2 adjustment in which energy, and probably most other
3 natural resources, can no longer be taken for granted.
4 In some instances, supplies will be absolutely or
5 artificially limited. More typically, the cost of
6 getting ever-larger quantities will simply be greater
7 than the alternatives of reducing the requirements or
8 of improving efficiency, than, in a word, of
9 conservation. It is becoming clear that conservation
10 is a low cost and low risk alternative than further
supply developement.

11 From an a priori point of view, there
12 can be no question but that the placing of
13 conservation on a equal footing with production is
14 logical. A supply - demand gap can be filled either
15 by increasing supply or by cutting demand. Even in
16 Canada, a nation that is relatively resource rich,
17 many of our energy-related problems can be resolved
18 at less expense and at lower risk by focusing on
19 those policies that curb demand rather on those that
increase supply.

20 Consider figure one (I apologize to
21 the audience for not having graphics of this available,
22 but copies of the brief can be obtained). The base case
23 demand forecast pictured in this graph is similar to
24 that which was presented to the First Ministers'
25 Meeting on energy last April. The other curves are



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4:67 2 not forecasts but scenarios of what could happen if
3 certain developments take place. The assumptions
4 underlining these curves are many; I am presenting
5 only a few here to avoid complicating the issue.
6 Such curves have many inherent limitations and are
7 at this point rather oversimplified. Perhaps at
8 later stages in the hearing we can go into such
9 scenarios in greater depth.

10 The fact that demand lies above supply
11 until the late 1980's (that is, that we have a shortage)
12 is not an absolute case for conservation any more than
13 the fact that supply lies above demand thereafter is
14 a case for not conserving. Imports and exports,
15 environmental considerations, changes in values or
16 government policies, to suggest only a few things, could
17 and will make both of these curves shift in time. In
18 fact, the question for Canadians is really whether we
19 will allow these curves to come true or whether we
20 wish to take actions that will shift them. Let me
21 explain this point further for I think it is the
22 heart of our energy policy.

23 The base case demand forecast in figure
24 one is based on an integrated econometric model of
25 the Canadian economy which takes account of conventional
economic variables including higher prices and
substitution possibilities, and the effect of more



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2 widespread information on energy consumption. It can
3 be considered as indicating the quantity of energy
4 that would be consumed, other things being equal,
5 in the absence of any explicit energy conservation
6 policy. (I would emphasize the word "explicit".
7 The picture here in relation to the higher demand
8 curve would be typified, I think, by voluntary
9 conservation measures, as opposed to arranging
10 mandatory type measures.) This curve goes at a
11 rate somewhere between 3.7 and 4.8% per year over
12 the next 15 years. This is still a relatively high
13 rate of growth, but it was only two years ago that
14 our projections forecast and annual rate of growth
15 of 5.8% per year. Even these lower growth rates
16 imply that per capita energy will increase by 75
17 to 100% by 1990. Turning to the supply curve, which
18 is a composite of estimates by source, account is
19 taken of numerous developments that, individually
20 at least, appear to be feasible. The curve implies
21 completion of both the Mackenzie Valley Gas and Polar
22 Gas Pipelines as well as the Mackenzie Valley Oil
23 Pipeline before 1990. It also implies the construction
24 of five tar sands plants, a doubling of electrical
25 production and a tripling of coal production by 1985.
Even then, we can still anticipate a deficiency in
oil supply compared with demand, though a potential



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4:69 2 surplus is gas, coal and electricity. (These are all
3 optimistic supply estimates).

4 While these figures might change, and
5 additional reserves be developed, geological and
6 technological problems are not the key policy variables.
7 Rather, the question of the cost of exploitation and
8 of delivery moves to first place. The investment
9 represented by the composite supply scenario in this
10 figure one involves an expenditure over the next ten
11 years of more than \$115 billion. (Perhaps to put that
12 in perspective, that is an investment on behalf of
13 each family in Canada of \$20,000 in the next decade).
14 What investments of this magnitude really mean is a
15 near doubling of the proportion of total goods and
16 services produced in Canada that will have to be
17 devoted to new energy development (about six percent
18 of the total GNP rather than the 3.5% over the period
19 1952 to 1970). If this investment is to occur, other
20 sectors of the economy will have to reduce their claim
21 on that 2.5% of the Gross National Product. What
22 sectors should these be? Can we shift the labour and
23 materials, for these are the real goods that the
24 capital stands for, rapidly and efficiently enough to
25 avoid creating even graver problems? What will be the
impacts on inflation? On the balance of payments?
These are the political and economic ramifications that



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4:70 2 today flow from energy policy.

3 There is a further problem: energy cost.
4 It is perhaps obvious that it takes energy to produce
5 energy, but the important consideration, as we move
6 to lower quality and more remote sources, is how much
7 more energy will it take to get additional units of
8 energy? This is not just a matter of "plant efficiency"
9 (that is, the fuel used directly in production) but
10 also of the energy content of the goods and services
11 that make up the plant itself plus the energy used in
12 mining, processing and transporting the primary
13 products. Studies under way in the Office of Energy
14 Conservation should provide preliminary indications
15 of energy cost for major Canadian supply options by
16 late this fall. Tentatively, it appears, for example,
17 that about one of every four barrels produced by a
18 tar sands plant must be used to produce and run the
19 plant itself. It is this sort of effect that doubled
20 the share of energy going to the energy supply
21 industry in the 1960's and that is responsible for a
22 part of our price inflation, for it means that, unless
23 technological developements more than offset the
24 depletion affect, more inputs must go into obtaining
25 the same output.

23 Finally, just for completeness, it is
24 essential to refer to environmental and social cost
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3 of energy developement. While I have no intention
4 of dealing with these today, one has only to think of
5 the evidence being presented to the Berger Commission
6 studying a Mackenzie Valley Gas Pipeline, or, for
7 instance, to the Solandt Commission, discussing
8 electrical interconnections, to know how complex are
9 the environmental issues and how difficult of
10 resolution the social conflicts. These, I'm sure,
11 will be elaborated on by other witnesses today and
12 in the future.

13 Lest I be misunderstood, let me
14 emphasize that high capital cost, high energy cost
15 and high environmental and social cost do not
16 necessarily preclude the construction of any one or
17 all of the supply alternatives. As I said earlier,
18 it is the heart of energy policy to decide whether,
19 or to what degree, these costs are worth paying in
20 order to provide energy. However, and this is I think
21 my main point, it is also an option to consider
22 whether we want to permit all the energy reflected in
23 the base case demand curve to be consumed. As W.H.
24 Hopper, Assistant Deputy Minister for Energy Development
25 Sector in the Department, stated at the recent Pacific
Science Congress, "...when one considers both the
nature of the risks...and the magnitude of the capital
costs...it becomes clear that the greater our ability



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2 to make energy markets balance by slowing down the
3 growth and demand, the lower the risks, the smaller
4 the capital bill, and the longer the breathing space
5 available to get a better fix on both international
6 and domestic prospects."

7 His point can be illustrated in broad
8 terms with two different calculations: first of
9 all, for every 0.1% that the average growth rate for
10 energy consumption is reduced between now and 1990,
11 there will be a reduction in energy use in 1990
12 equivalent to about 150,000 barrels of oil per day -
13 that is more than the output of one Syncrude-sized
14 tar sands plant at a current cost of over \$2 billion.
15 Secondly, (and this is a different type of calculation)
16 if we could cut the total energy consumption by 20%
17 below past growth rates (that is, those of the '60's
18 represented by the uppermost curve of figure one) by
19 1985 and by 40% by the year 2000 the saving would be
20 equivalent to the lifetime output of 55 Pickering-sized
21 nuclear plants at a current cost of well over \$1 billion
22 each. Under these circumstances it would be
23 irresponsible not to consider strong efforts to
24 conserve energy.

25 By how much, then, should we cut back
on energy demand through conservation efforts?
Unfortunately, it is no more possible to give a



1
2 straightforward answer to this question than to that
3 on how much energy could be produced. Here too the
4 answer depends on how much one is willing to pay and
5 how much of other things one is willing to give up.
side 2 6 Despite these difficulties, I have sketched an
7 alternative demand scenario on the graph under the
8 name "technological fix". This curve is conceptually
9 comparable to the composite supply scenario in being
10 relatively optimistic and assuming that most
11 technologically feasible options for improving
12 efficiency in energy production and consumption
13 are exploited over the course of the next 25 years.
14 (The appendix attached presents a list of efficiency
15 improvements that would serve to move Canada to such
16 a path of growth.) The levels of energy consumption
17 represented by the technological fix curve by no means
18 exhaust the thermodynamic potential for efficiency
19 improvements, but, again in analogy to the supply
20 scenario, they do require the simultaneous investment
21 in a number of opportunities. Note, however, that,
22 helpful as it would be, a shift of demand downward
23 to the technological fix scenario gains less than
24 ten years time compared with the demand forecast.
25 Sooner or later -- just when depends upon all of the
factors discussed above plus others I have not
mentioned -- sooner or later, we will have to learn



1
2 to live with zero energy growth, the lowermost curve
3 on figure one which, in this case, is drawn so as to
4 be stable per capita consumption.

5 THE CHAIRMAN: Thank you very much, Mr.
6 Kelly. I assume that in so far as your technological
7 fix and the zero energy growth demand situation is
8 concerned, what you would be undertaking here
9 corresponds to the Ford studies in the United States.

10 MR. KELLY: Very much so. The scenarios
11 are somewhat based on the Ford, adapted for Canadian
12 situations. I think the conceptual difference between
13 them is quite similar. However, one is a
14 technologically achieved demand and another one is
15 social - beyond the technological one is the social
16 changes.

17 THE CHAIRMAN: This is particularly
18 interesting because this is one of the studies that
19 we had in mind that the Commission might sponsor. It
20 is very interesting to know that the Department of
21 Energy, Mines and Resources is as far as it has got
22 obviously in it's studies.

23 MR. KELLY: I might say within the
24 Department there is the process known as Energy
25 Policy phase 2 is well under way, and while I can't
speak to the supply side of that policy analysis,
we are, within the office, extremely hard on



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§ 4:74 developing more firm data on demand options, and I do hope that further on in the Commission's deliberations we would be able to provide you with more and better definition of methods of transition to either of these supply alternatives.

DR. STEVENSON: I just wanted to tell you, Mr. Kelly, you will be delighted to know that as we go around Ontario we have been promoting your booklet on "A hundred ways to achieve energy conservation in the home" you will delighted with the number of requests when the mail strike ends.

MR. KELLY: I hope so.

DR. STEVENSON: But more generally, we are very much interested in the process of educating the Ontario public on the matter that this Commission is dealing with. We grabbed the idea of using your book, first of all, because it is a good one, and partly because it is available now and we can refer to it. I am hoping that we can contact you later and talk about material that your office of the Ministry has produced that might be made available to the Commission, and some of the public information newsletters it hopes to prepare.

MR. KELLY: In anticipation of this subject area, I have brought two sets of literature produced to date and I would be happy to sit down



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2 and discuss our plans for the future because we are
3 fully open to a co-operative effort, either in
4 production or distribution or any phase of the
5 public information process.

6 DR. STEVENSON: Marvellous.

7 THE CHAIRMAN: Thank you very much,
8 Mr. Kelly. It is very clear we'll be in contact
9 on a reasonably continuous basis, interchanging
10 information and so on we are grateful that you could
11 come. Thank you.

12 MR. KELLY: Thank you.

13 THE CHAIRMAN: Mr. Tim Lash.

14 SUBMISSION BY MR. TIMOTHY F. LASH.

15 MR. LASH: I would also like to start
16 by thanking the Commission for the opportunity to say
17 things to it and to also congratulate the Commission
18 for it's approach to having preliminary hearings,
19 which I understand, the main emphasis is to help the
20 Commission in understanding how it would go about
21 what it is set to do.

22 I had initially said what I would do
23 is talk about the Terms of Reference a little bit,
24 talk about the issues and various concerns, and say
25 some things about suggestions towards the planning
framework that might be of use or interest to the
Commission, and I would also mention something about



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2 public involvement. What I would like to do is
3 condense considerably what will later view in written
4 form and I will speak now largely about the Terms of
5 Reference and mention only those issues and areas
6 which are relevant to my discussion of that and
7 similarly mention those elements of public involvement
8 which are relevant to that.

9 Bob Gibson, I think, is not alone in
10 talking about the distinctly two different kinds of
11 things involved in the Terms of Reference of the
12 Commission. The first three instructions having to
13 do with general long range planning and the fourth
14 having to do with the need or instruction to give
15 some kind of report on several priority projects.
16 I can't agree strongly enough with Mr. Gibson that
17 if these two are undertaken concurrently the
18 Commission, I think, stands in good likelihood of
19 throwing away the credibility of which it is doing
20 a very good job now of starting up.

21 It seems to me there are three possible
22 strategies for dealing with this inconsistency in the
23 Terms of Reference. The first would be to deal with
24 them concurrently. I think for the reasons that
25 have been outlined, that has considerable problems
in it.

The second strategy would be to



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2 emphasize the instructions one to three, the very
3 broad ones, and to push off, perhaps, entirely perhaps,
4 relieve the Commission of it's responsibility to deal
5 with the priority projects. Because, if it tries to
6 deal with them in a way which is inadequate to the
7 scope of the enquiry that it intends to follow in one
8 to three, I don't think very many people would believe
9 at all in anything the Commission deals with in one
10 to three.

11 The third alternative strategy, I think,
12 would be to emphasize the priority projects and say
13 that the Commission could, as much as possible, say
14 to itself, here we have a great opportunity to have
15 a very great impact on some things in the works,
16 more or less now, some things that are actually going
17 to happen or have a good chance of happening, some
18 things which a fair number of people are committed to,
19 one way or another. And what this might require would
20 be a somewhat lesser emphasis and completeness on
21 looking into the broad terms of reference, the broad
22 enquiries that the Commission set forth in the first
23 three instructions. I will come back to those three
24 alternatives.
25

26 I intend to recommend a third, that
27 is to say, that the Commission downplay it's Terms
28 of Reference, one to three, and suggest that it not
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2 try to take two years to explore those before applying
3 them to priority projects. I think that what this
4 will require is the Commission be willing to delay
5 it's consideration of the priority projects beyond
6 what the Ontario Ministry of Natural Resources
7 perhaps had in mind.

8 In the issues and areas of concern,
9 several things were mentioned, and the one thing
10 I think I would like to mention as an issue or as a
11 concern which appears to be perhaps inadequately
12 expressed as far as I can see in not only the Ontario
13 Hydro Report 556SP, which apparently is the genesis
14 of the Commission, but also in the issues stated now.
15 There seems to be - there is in the report 556SP, it
16 mentions at the outset, that what it is trying to do
17 is look at power planning roles and how they may
18 be affected by socio-economic and environmental
19 constraints. It seems to me unfortunate to have
20 socio-economic consideration for goals and
21 environmental goals considered as constraints by people
22 who are planning it. I think one of the things I
23 would like to say, and I am afraid I am not going
24 this very well, but, one of the things I would like
25 to say is that in the planning framework as it has
evolved, it would be very important to make sure
environmental things are conceived as goals, rather



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2 than constraints, goals that can be met, more or less,
3 by whatever power system you design. Similarly, the
4 socio-economic factors, socio-economic things should
5 be conceived as goals rather than constraints by
6 those who are planning power systems. It has been
7 known for some time in comprehensive planning that
8 infra-structure needs developement as well as
9 servicing it. Roads are determined where settlement
10 takes place, as well as serving a settlement where
11 it occures. I think in a similar way power system
12 planning leads social institutions as well as
13 following it. I think that taking this into account
14 will be a very important thing for the Commission to
15 do.

16 How this relates back to the Terms of
17 Reference, particularly in instruction four, in the
18 speech which Mr. Grossman had which was distributed,
19 suggested you could consider the need for power and
20 consider power planning goals, and not consider
21 socio-economic and environmental constraints. This
22 is, once again, echoing the point made earlier by
23 Mr. Gibson, that you cannot think of needs for power
24 without thinking of needs for other things. These
25 must all be put on an equal footing as goals.

One thing - I think there is a tendancy -
and I have had some experience in planning myself, and



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2 I recognize it in myself, amongst planners is to think
3 that a technical expert is someone who is technical
4 in his field and all others are lay people. There is
5 a tendancy also when planners are thinking about
6 public involvement to think that anyone who is a
7 member of the public, that is to say, anyone who is
8 a lay person as far as his area is concerned, and as
9 far as his power is concerned, is by no means a
10 technical expert. Well, this is practically untrue.
11 When you speak of public participation or public
12 involvement you are talking about a number of public,
13 not one monolithic public. There are many different
14 kinds of technical expertise in that public. It
15 seems to be that one of the things the Commission
16 could do is elevate in the planning all kinds of
17 technical expertise, the level of the initiating
18 technical expertise and power. This is one reason
19 why I think that -- well, perhaps I would just say
20 that it's something I would like to elaborate on
21 later in writing in terms of the planning framework.
22 But, I think it could be tremendously important.

23 On the public involvement related to
24 the Terms of Reference, two incidental points to
25 my presentation are, first of all that I am certainly
in support of the intention that the Commission has
paid great attention and to give assistance to



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2 public interest groups. I think other written
3 submissions will give further developement to that.
4 Vis a vis one of the papers which the Commission
5 presented in it's public information brochure
6 regarding the intention to find out public attitudes
7 through survey, there are certainly people who are,
8 perhaps, power lay people, that attitude surveys -
9 technical experts who would be very interested in
10 taking a look at the design of whatever survey you
11 put forward. Social surveys are notorious for
12 results that are predicated in the way the questions
13 are asked, regardless of the subject matter at hand.

14 The second point I would like to make
15 on public involvement, and I think this is perhaps
16 one of the strongest points I could make here, is
17 that the kinds of concerns which are suggested in
18 your instructions one to three are mirrored in the
19 Man and Resources Conference, which was sponsored by
20 the Canadian Council of Resources and Environment
21 Ministers. I am sure you're familiar with it. What
22 I will do is just read out the initial paragraph
23 where they describe this, and I think you'll notice
24 that perhaps, relevance to your own enquiry as set out
25 in instruction one to three.

"Early in 1971 the Canadian Council of
Resource and Environment Ministers



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2 initiated a national program, the
3 principal objective of which, was to
4 provide a national forum for debate
5 concerning the formulation and
6 recommendation of guide lines to
7 achieve and sustain an optimum balance
8 of social and economic benefits derived
9 from a natural resource base. The
10 process by which this objective was
11 achieved was by participation by
12 Canadians in all walks of life. The
13 focal point of the two year conference
14 program was the Natural Resources
15 Conference held in Toronto in November
16 18th to 22nd, 1973."

17 This book is the proceedings from this conference.
18 Prior to that book, there were national task forces
19 on environmental protection, population, energy,
20 education, intergral planning, ownership, qualitative
21 and quantitative data, and northern developement.
22 These all bear a great deal of relevance, I think, to
23 the forms one to three. I think what they also do,
24 in fact, is that if they are taken seriously they
25 will shorten considerably the task which the Commission
has in it's instructions one to three.

I think there are two more points I



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3 would like to make on that. One is that this
4 information was put together by a large proportion,
5 I would say, of the people who will be attracted to
6 your hearings now, and I was also involved in these.
7 And I think as a matter of sustaining credibility
8 and as a matter of respect for the large amount of
9 free time and effort that the people of industry,
10 academic and public interest groups of all kinds
11 have put into this, this should be a major starting
12 point for yourselves, certainly in your considerations.

13
14 The second thing I'd like to mention
15 is that although it was put together between '71 and
16 '73, it has, I would say, lost none of it's currency
17 for your current program. If what you are looking
18 for is long range stuff, there isn't that much
19 change over the period of five years, either in the
20 state of the art of in probably the development of
21 the opinions of those members of the public who will
22 be willing to come forward to you in any case. This
23 relates back to the alternative that I would suggest,
24 the alternative strategy in the Terms of Reference,
25 and that is, that if you choose to emphasize the
fourth instruction and concentrate the Commission's
attention on these priority projects, making sure
they are considered in the full range, you have a
head start with what you may have thought what was



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2 the case before. There is much more material besides
3 this. I would be very happy to give you references
4 if that is needed.

5 I am sure that there are other
6 exercises as well that have been carried out by
7 other people who will be coming forward to you. I
8 know that Pollution Probe will be coming and talking
9 to you and that they have developed fairly elaborate
take 5 10 positions on energy. I think that one of the things
11 will happen, undoubtedly, - if the Commission chose
12 to emphasize the terms of instructions one to three,
13 rather than push off, or let someone else do
14 consideration of the priority projects, that is
15 assuming that the Commission cannot successfully
16 consider both at once, if the Commission does
17 emphasize instructions one and three, and puts off
18 the priority projects to someone else, the priority
19 projects which take place will probably be considered
20 not as well as they could be by the Commission.

21 THE CHAIRMAN: Mr. Lash, I am sorry to
22 interrupt at this stage, you have been making an
23 extremely powerful presentation, but there are three
24 more people who we have got to hear from before ten
25 past five.

26 Your reference to the Man and Resources
27 Conference, with which I was involved, was an



1
2 extremely important one and I personally have been
3 guided quite a bit by the very excellent reports on
4 these subject areas. I believe that perhaps we have
5 got to hear from you again, clearly, but at the
6 present time, if you don't mind sort of giving way to
7 - I think there are three - I better check that they
8 are here. Mr. Puccini?

9 MR. PUCCINI: Here.

10 THE CHAIRMAN: Mary Gregory?

11 MS. GREGORY: Here.

12 THE CHAIRMAN: David Treleven?

13 MR. TRELEVEN: Here.

14 THE CHAIRMAN: I regret very much
15 because we have got to vacate the room, - it is not
16 a question of ability, it is a forced procedure and
17 I'm very grateful to you, but I must call on the
18 next person.

19 MR. LASH: I am sorry that we have run
20 out of time. In summary, the main point I would like
21 to make is that the Commission in order to carry out
22 the good work that it is doing, I hope will be willing
23 to place major emphasis on the priority projects and
24 perhaps dig in it's heels against pressure which will
25 undoubtedly come before it to get the priority
projects considered in a hurry.

I was heartened yesterday to hear



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2 several mentions of the sentence: This Commission is
3 independant not only of Ontario Hydro, but also of
4 the Ontario Government. I'd like to say that and I'd
5 like to say thank you very much. I am sorry we have
6 run out of time.

7 THE CHAIRMAN: Thank you very much.
8 You made a most important contribution.

9 Mr. Puccini?

10 SUBMISSION BY MR. EDMUND F. PUCCINI.

11 MR. PUCCINI: Mr. Chairman, Madam, and
12 Commissionaires. I feel like, in one respect, one of
13 the most ordinary people coming before you this
14 afternoon. I would like to cast two votes to start
15 off with. Public involvement - yes - for
16 credibility reasons and after all, who is paying for
17 our energy, whether it be direct electricity or the
18 cost of the product. Yes - also for legal or public
19 guidance or resource counsel. Maybe this will
20 prevent some lengthy duplication in support of a
21 common point and it could be noticed from a public
22 standpoint, it won't become a battle of wits, but
23 genuine participation freely given. To help save
24 time I will just read from part of my very short
25 brief, in fact a brief brief, where I say that
since this is a preliminary informal meeting, and
expecting an invitation for a formal meeting and/or



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2 hearing to follow, I come to you an an individual
3 with a point form presentation at this time, and
4 may I request the honour of returning again, please.

5 Presently I am President of the
6 Parkwood Hills Community Association; Chairman of
7 the Nepean Township Outer Ringroad Committee;
8 Co-chairman elect and the spokesman for the Nepean
9 Community Association brief to the Municipality of
10 Ottawa Carleton Regional Draft Plan re. Transportation
11 and Highway 416. In other words, I am keenly
12 interested and actively involved for the citizens of
13 Nepean Township and surrounding areas. I might add
14 here that I am also a visual merchandise manager for
15 a large retail organization, and therefore, I am keenly
16 interested and intently involved in the visual affect
17 made to people, consciously through the senses, or
18 indirectly to the subconscious through subliminal
19 means. In other words, maybe a bit of a light
20 architect.

21 Locally when I see the waste of
22 materials, labour and electrical energy, to illuminate
23 some of our city regional roads, when I see level
24 standards of electrical lighting ever increasing over
25 the past three years with no apparent concern for
energy shortage, extreme inflation et cetera, for
example, a high intensity mercury vapour unit in



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front of every home on Meadowlands Drive between Merivale Road and Woodroffe Avenue, where on the same street a few months ago a unit was placed every two - three homes on Meadowlands Drive between Merivale Road and Fisher Avenue. This is only an example. I am sure in your own area where you live you could apply the same thing.

Why doesn't some senior level of energy or power board set a more conservative maximum standard rather than just the minimum standards from which the planners, et cetera, work?

Should the highway code of lighting not be reviewed in the same vein with penalties attached rather than the extra costs in someones idea just simply pass on to the domestic tax payer.

Then internal lighting practices should be reviewed and reversed where necessary. Imagine we've built two large Government office towers in the Ottawa region with no light switches in them. That's enough!

My second area of concern is in the waste deposits we are building and helping other nations to build re: nuclear power stations. So it produces electrical power cheaper. Really? We haven't paid the full price yet, and God willing we won't, when we leave lethal stockpiles that can



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5:89 2 destroy our planet with the help of one maniac. In
3 today's society we have seen increasing examples of
4 this.

5 A proposed 25% cost increase in January
6 1976 would be worth it if we could undo what we have
7 already done, but, we've gone too far already. As
8 concerned human beings we can't go any farther in
9 that direction without worldwide foolproof controls,
10 example, a nut (if you will excuse the expression)
11 with a detonator or an earthquake releasing a storage
12 area. If that is impossible to maintain or to attain
13 these controls, then so are these nuclear stations
and all operation of these must cease immediately.

14 Further planning, (and I realise,
15 ladies and gentlemen, that request could be literally
16 taken for the point to be made), further planning,
17 in this energy field or any other; or any crown or
18 provincial funded enterprise must begin internally
as a private business would.

19 The public purses are strained. These
20 deficient one sectors and/or highly inflationary
21 sectors which justify excessive consumer costs by
22 run-away internal costs; must now be made to clean
23 up their own home first. The real necessary priority,
24 the basic - basic need must be our limit; not a new
25 fancy station for art sake, new office furniture



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because the department next door received some, more
power capacity to meet a peak load without employing
restraints to make that peak load more realistic in
today's world economy. Where's our efficiency?
Where's our commonsense?

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And if I may just add two more comments.
I heard a gentleman, I believe the very first one,
Mr. Bell, and I hope I heard him wrong, we have had
trouble with controlling these microphones, that there
should not be public participation. I hope I heard
that wrong. And Mr. Askwith, if he is still in the
room, suggested that restraints should come first
from the people. Well, we have done many many things in
the last few years to retain energy, to put it on
such a high priority so it would sell more electricity,
be it the design of appliances or what have you. I
have tried to suggest in this very short presentation
that the largest restraints could start other than
at the consumer level. I, too, am concerned about the
senior citizens, but he doesn't take up one tenth of
one percent of all the energy being used. But, he
should have safeguards too.

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Ladies and gentlemen, thank you very
much.

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THE CHAIRMAN: Thank you very much,
Mr. Puccini, for coming forward as you said, as a



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private individual, and more people like yourself that we can hear from, the more satisfied and happy we will be, because this is what this Commission is in aid of.

I note your keen public spirit already in the various jobs you are taking on, so that we can take it that with your involvement with these Township councils and other committees, that we might well expect a further brief when we move into the more formal hearings and meetings. Thank you very much.

MR. PUCCINI: Thank you.

DR. STEVENSON: Mr. Puccini, I think, perhaps in fairness to Mr. Bell, I don't think - I certainly didn't get the feeling from his paper - that he was opposed to public participation. I recall, in fact, he said it might be possible to beef-up the Ontario Energy Board, and have hearings there that would be more comprehensive in fact, and a better review of Hydro's programs than in the past. So I don't think I would draw that inference from what he said, taken as a whole.

SUBMISSION BY MARY GREGORY, NATIONAL
CAPITAL ENVIRONMENTAL COUNCIL.

MS. GREGORY: My name is Mary Gregory and I represent the National Capital Environmental Council. This has been formed recently in the National



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5:92' Capital region, just last fall. One of the reasons for this forming is partly reflected on what we are participating in here at the moment. Many citizens' groups, non-profit organizations, such as Pollution Probe, Central Planning Council, has been active for quite some time in the Ottawa area, because they are concerned about the kind of hot shot type of planning that we are experience at the moment from the physical, and also, the social and environmental sense. I am only going to talk briefly, you already have the statement which I have sent to you. Basically, the environmental council is very much concerned about the current lip service which is paid to the protection to the environment. We would like to see it being taken more seriously into consideration and not as a result of various individual pressure groups, such as the Environmental Council will probably become also.

With respect to electrical power planning, I know that the Sierra Club of Toronto is very active with respect to Hydro power lines, where they should be constructed, and I think it is a great pity with these kinds of groups with their resources, are forced to have a negative rather than a positive impact in as much as they are forced to oppose what has already been planned, without due consideration



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to the environmental impacts. I would like to see the Environmental Council in the national capital region, being able to take a more positive position with respect to citizens' participation, and I see this is opening up on many levels.

Specifically, with respect to electrical power planning, I think conservation is probably one of the biggest things we should be looking at today. I tend to think more and more that we are living very much in the spoiled society and I think that sometimes individuals don't want to make personal, small sacrifices. I think it is necessary for government to take these steps and make decisions for the good of everybody. It is very much what happens in a family. One has to make a decision for the benefit of all.

Financial incentives again, it is rather puzzling to think large industries are given financial incentives to use more power instead of less. I think that is something which perhaps should be looked at very seriously, if it has not been looked at already. Planning of electric power should be looked at as only one part of all services that are provided in Ontario. I don't see how it is possible to plan for supply of electricity to a certain area without being aware of what that particular region has in mind with respect to your expansion, or economic expansion. Here, too,



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at the same time, we should be looking at the decentralization of what we have already done with some of the larger urban areas. There is too much development concentrated in one area where, after all, Canada is a very large country, and there are other very large areas that could be really developed and livable.

I know, a very important concern has been just recently nuclear power and this has been a result of the Canadian Coalition calling for responsibility in nuclear power planning, and the Environmental Council, very much supports the activities of this group, and the actual functioning of nuclear power plants is very much a question of, primarily safety, and secondly, the impact that it has on the environment. - The amount of radioactivity which is admitted into the atmosphere. I know many studies have been carried out in this respect, and people are very concerned about the seemingly high number of cancer, leukemia patients that we have today. Okay, that's that. There is probably another aspect, and I'm sure other people will present briefs, or they already have done, on this particular problem.

The last point we would like to rule is that it is rather disappointing to see that all



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funds are cordoned into research and development, primarily one form of energy power, and even from a business standpoint, I really don't think this is a very wise decision. I think we should seriously be looking at other forms of energy, not only solar energy but, I'm sure there are other forms which could be used to benefit society. I think that is all I have to say, thank you very much.

THE CHAIRMAN: Thank you very much, Mary Gregory.

You have told us the Environmental Council has just started a few months ago. How many members do you have?

MS. GREGORY: Okay, the way the Council is operating at the moment, when you talk about members, we don't have a membership as such. What we are doing to date is that we are putting together a mailing list. We are trying to get to know all the different groups in the National Capital region concerned with the environment. We have had three meetings and one public meeting to date, and I would say the problem has been with the mail strike. We haven't been able to distribute as much information as we would like. But, I would say we have approximately 15 to 17 active groups participating in meetings. These are more the larger groups such



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5:96 as the Federation of Citizens Association, Pollution Probe, National Provincial Parks Association and the Voice of Women. The other kinds of umbrella groups, if you like.

THE CHAIRMAN: Thank you very much.
I am personally interested in this because of my membership in the other Environmental Council, the Canadian Environmental Advisory Council, which of course meets in Ottawa. This was my first knowledge of your group and I will pass the information on.

side 211 I am most grateful to you for coming. The environmental implications and developments in energy are a very profound concern to the Commission. Hence, our interest in the conservation ethics, not only our interest, but, we recognize this is an area where every single person in Ontario is really interested. They are hopefully conservationists at heart, and hopefully they will become conservationists in practice. That seems to be the problem. Thank you very much.

DR. STEVENSON: Ms. Gregory, you will be sure to leave the address of your group with our staff, perhaps on the information sheet, so as we can keep in touch with you.

THE CHAIRMAN: Mr. David Treleaven. Is that the way you pronounce your name?

MR. TRELEAVEN: Treleaven.



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THE CHAIRMAN: I expect it is a Cornish name.

MR. TRELEAVEN: Yes indeed. A number of generations back.

THE CHAIRMAN: Well, welcome to the meeting.

SUBMISSION BY THE COMMITTEE FOR AN INDEPENDANT
CANADA, - per MR. DAVID TRELEAVEN.

MR. TRELEAVEN: I am aware of the time factor. My name is David Treleaven, and I reside in Ottawa. I am the National Chairman for the Committee for an Independent Canada, and as such we represent some 10,000 members nationally, of which over half reside in the province of Ontario. I am here to suggest two issues that should be included in the Terms of Reference of your Enquiry.

The first is the export sale of electric power, particularly from the point of view, of the way in which the export sale of electric power effects the domestic economy of Canada. Buyers of Canadian exports need Canadian dollars. In the past, these Canadian dollars have often been attained by selling to Canada manufactured goods the appointment of capital ratio of manufacturing to natural resource exports is a factor of some point of six. So, therefore, this type of export of natural resources for the import of



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manufactured goods tends to adversely affect the employment situation in Canada. Now, I realize, that the export of electrical power is preferable to the export sale of unprocessed ore resources, but it is also less preferable than the export sale, for example, of manufactured goods. I suggest that the export of electric power should be included in your Terms of Reference, particularly from the point of view of how these sales affect the domestic economy in Canada.

The other issue that I suggest be included in your Terms of Reference, is the possibility of using the availability of electric power or the pricing of electric power for population distribution within Ontario. There are two separate factors here. One is the problem of urban growth related to the concept of satellite cities. Is it desirable to the population of Ontario to continue to crowd into the Toronto area, for example, the Golden Horseshoe, into the Ottawa - Hull region, or can electric power be used to encourage the growth of satellite cities in areas, for example, such as Barry's Bay or Barrie, or Goderich - would this be advisable?

Another related area that many of our members are interested in, is the availability of farm land in Ontario in the future and the fact that urban growth, urban sprawl, is tending to take



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productive farm lands of Ontario out of production. We feel that in the future in general, whether it is one decade or five decades, that the energy situation is going to be far worse than it is at the moment, and that transportation costs are going to be much higher. Consequently, food in Ontario is going to have to be obtained much closer to home and that it is important to keep Ontario prime agricultural land in production.

I would also offer to you the experience of our organization in the field of nuclear power, how our membership in general views nuclear power. A large part of our membership is very pro-nuclear, especially pro-CANDU reactor. A small sector of our membership is anti-nuclear power. Another large block of our membership is very cautious about the use of nuclear power, both within and outside Canada in the future. These members, how I describe as cautious on the issues, feel, quite simply, that not enough is known about nuclear power in general at the moment, that they can support the widespread use of nuclear power in the immediate future.

In summary, once again, the two items that I am recommending the Commission include in it's Terms of Reference are, number one: the export sale of electric power, and number two: the use of



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2 electric power availability in pricing for population
3 distribution in the future in the province of Ontario.
4 This concludes my remarks.

5 THE CHAIRMAN: Thank you, very much,
6 Mr. Treleaven. You will be perhaps relieved to know
7 that certainly the first of the points you raised
8 has just come into the Terms of Reference of the
9 Commission, stated quite specifically under the
10 heading export policy. The second one, of course,
11 is like the first, a highly complex subject and,
12 again, it is one where we have got to rely on the
13 attitudes and the ideas and views emerging through
14 a process of public participation.

15 The farm land issue, and my colleague,
16 George McCague, will agree with me that this is one
17 of the very profound concerns of the Commission. It
18 is certainly interesting that a group with your size,
19 nearly 10,000 members, that you should have these -
20 one block very pro-nuclear, and another block cautious,
21 and another block a bit anti. But, this of course
22 would suggest to me that you have got a very healthy
23 organization, and I am sure you'll be seeing a lot of
24 debates in this area, certainly the Commission will
25 in the future.

Have you any specific points to raise,
Bill?



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3 DR. STEVENSON: A propos the export
4 question, Mr. Treleaven, sort of putting my economist's
5 hat on, I think I could agree with you without
6 qualification, if you are going to export electric
7 power, it will be in Canada's interest to do it in
8 the form of processed manufacturing goods, employing
9 electric power in the process, if you are going to
10 do it that way. But, I think it was the Honorable
11 D'Arcy McKeough, that once observed that it was indeed
12 a rare situation for Canada to be in, that Hydro has
13 been demonstrating before the National Energy Board
14 that the export of power to the United States was
15 almost all generated by the burning of U.S. coal.
16 So, here we were, Canadians, for goodness sakes,
17 importing raw materials from the United States and
18 exporting them back in finished form! He says, who
19 is hewing the wood and drawing the water, now. So,
20 in other words, there is a point to be made that you
21 could export electricity in finished form, but, at
22 least to the degree that it is based on U.S. coal,
23 it is an interesting and unusual position for a
24 Canadian to be in.
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22 MR. TRELEAVEN: I would suggest that
23 the upgrading of natural resources to the stage of
24 electric power is minimal in my opinion. I know that
25 D'Arcy McKeough made the statement that the export



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sale of electric power makes some very good money, but I think if you look into the problem a little bit deeper, that there are adverse affects on the domestic economy and indeed it is losing us some very good money in other areas.

The point that is often made that electric power is the finished product, just for comparison, I point out that if we diverted our rivers southward and sold the water, that would be selling finished product also. But, the benefits to Canada would be minimal from the point of view of employment.

DR. STEVENSON: I don't disagree with your premise at all.

MR. TRELEAVEN: No, I know.

THE CHAIRMAN: Thank you very much, Mr. Treleaven, for accepting this reduced time with such grace. We are very grateful to you.

Ladies and gentlemen, we are very grateful to you for coming this afternoon and perhaps some of you may be with us this evening when, after the formal submissions, there will be a period of great informality. That is our hope and wish. Thank you very much. The meeting is now adjourned. The meeting tonight is to be held at Lansdowne Park, I think, at the Civic Centre.

---WHEREUPON THE MEETING ADJOURNED.



Ontario

THE ROYAL COMMISSION

ON

ELECTRIC POWER PLANNING

*Preliminary Meetings of the Royal
Commission on Electric Power Planning*

DATE: Nov. 18, 1975

TIME: 2pm

LOCATION: Ottawa

VOLUME NO: 7a

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ROYAL COMMISSION

ON

ELECTRIC POWER PLANNING

Hearing held at the Civic Centre,
Landsdowne Park, Ottawa, Ontario,
on the 18th day of November, 1975,
at 8:00 A.m.

MEMBERS OF THE COMMISSION:

DR. ARTHUR PORTER	CHAIRMAN
ROBERT E. E. COSTELLO, ESQ.	MEMBER
MME. SOLANGE PLOURDE-GAGNON	MEMBER
GEORGE A. McCAGUE, ESQ.	MEMBER
DR. WILLIAM W. STEVENSON	MEMBER

VOLUME 7A



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THE CHAIRMAN: Ladies and gentlemen, may we come to order, please. This is, of course, as most of you already know, is the third session of this preliminary public meeting in Ottawa. It is a very pleasant job to welcome you and to hope that we are going to have an interesting evening. You will gather, too, that the proceedings are reasonably informal, although this evening there are, I think, about six written briefs that will be presented to us in what might be considered a formal way.

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Normally we start with the Chairman's introductory remarks, but by dint of experience in other places, we have discovered that these are largely redundant anyhow and it is far better to let people in the audience talk than the Chairman to talk, because all the Chairman is going to tell you is what is already contained in the information kit. So we will dispense with it, except on special occasions like this when Madame Solange Plourde-Gagnon is in her home town, and therefore, is going to be co-chairman with me of the session. I think it is very appropriate that I should ask her to say a few words of welcome on behalf of the Commission. I am not going to introduce the remaining Commissioners because I am sure by now they are familiar to you.



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2 Solange, over to you.

3 MME. PLOURDE-GAGNON: Thank you very
4 much, Dr. Porter. I would be very happy to wish you
5 welcome. I'd like to say that Ottawa is my home.
6 Right now there is a simultaneous translation service
7 and for this reason you will be able to express
8 yourself in your own language, so please use these
9 devices.

10 I would like to add to the presentation
11 of Dr. Porter, that you do not have to be an expert
12 in order to get involved in this study. Also, the
13 fact that we are not experts does not mean that our
14 role is less important. So, I would like to say
15 also that I do represent the Francophones as well as
16 the woman, so it is really a package deal. We all
17 use electrical energy and, I am not an expert, but I
18 do represent all of the people who are not experts,
19 but who do use energy. So, this is why I do feel
20 it is important to be part of this Commission and
21 to represent the ordinary consumer. I, as an ordinary
22 consumer, represent the taxpayers, especially when I
23 think about how much energy is costing him now and in
24 the future. I would like to say also that I am not
25 the only member of the Commission who does think about
this cost aspect.

It may sound extraordinary to plan 20



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2 years ahead such a complex and difficult topic as
3 electrical energy, but in a consumer society where
4 there is such a rapid evolution, we are often faced
5 with the fact that what we thought of as actual is in
6 fact obsolete. So, such a Commission could not be
7 undertaken without the participation of the public and
8 the Ontario population must tell us what their needs
9 are, what kind of life style they want for the future,
10 and how they can receive equally of this service. The
11 participation in this Commission will also reinforce
12 the views of this Commission, when the time comes for
13 us to make recommendations. Our mandate might sound
14 paradoxical because it is really a planning mandate.
15 We would like to point that out. I am really talking
16 about the long term implications and the priorities
17 to be set up. We want to be a way for the population
18 to reach the Ontario Government, for people to tell
19 the Ontario Government what they want, when we submit
20 the recommendations which will be implemented by the
21 Government. So, we are here to listen to your
22 suggestions and answer your questions and, now it is
23 your turn to voice your opinion.

24 THE CHAIRMAN: Thank you very much,
25 Solange. You gather - and those of you who attended
the session last night when I gave an illustrated
talk on that general topic - you will appreciate



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2 our task is essentially to fit a highly complex
3 technology to the needs of the people of this province.
4 What we are seeking, of course, at this time especially
5 in the preliminary meetings, is the views of as many
6 people as possible as to what are the issues, which we
7 should discuss when we come down to in depth debate and
8 consideration of these concerns. We are going to
9 ascertain, hopefully, too, how the public wishes to be
10 involved in the decision making process, because this
11 in itself is a very very real concern in these days of
12 high technology and high levels of change.

13 The utilization of electric energy -
14 what we are seeking is how can that be bettered, what
15 are the means perhaps of bringing about levels of
16 energy conservation, and so, how quickly can Ontario
17 move, say, from a profligate energy user to a conserver,
18 energy conserving society and so on.

19 We are going to be very conscious of the
20 educational implications, especially at this stage of
21 the Commission's work, and that is why we want the
22 whole approach and the environment to be as flexible
23 and as informal as possible.

24 On that note, then, I would ask one or
25 two people to come up to somewhere - I don't know where
they come up to - or maybe they go to the microphone
in the middle there, and present some of their ideas.



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1:5 Is Dr. Ray Jackson here? Oh, he's gone to a concert which he suspected he might have to go to, so that's that. Then, we have, fortunately, the return of Professor Rogers. Professor Rogers was with us this afternoon at the Town Hall and Professor Rogers is of course from Carleton University and heads up the energy research group there. Professor Rogers, would you like to come to the microphone, please? Once more, welcome.

SUBMISSION BY THE CARLETON ENERGY RESEARCH GROUP, per PROFESSOR ROGERS.

PROF. ROGERS: Thank you, Dr. Porter. I am presenting a brief tonight on behalf of the Carleton Energy Research Group. This group is engaged in interdisciplinary studies on the improvement of energy utilization in Canada. Specifically, we are involved in studies on energy use in transportation, in building, and in industry, in the combined purpose use of thermal electric power plants provide thermal energy as well as electricity, and finally, on the effect of price on energy supply and demand. All of these study areas impinge to some degree on the question of electric power, and therefore, are relevant to the concerns of this Commission. Our studies have resulted in certain preliminary conclusions which we feel should be considered in the



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2 planning of electric power generating capacity.

3 To preface our brief, I should point
4 out that forecasts of Canadian energy requirements
5 made prior to the mid-east crisis of 1973, indicated
6 that electrical energy would grow in importance to
7 such an extent that it would be the dominant source
8 of energy in the next century. These forecasts also
9 indicated that CANDU nuclear reactors would provide
10 an increasing percentage of electrical energy,
11 reaching about 44% of the kilowatt hours generated in
12 the year 2000. Since then, the concern about energy
13 resources and environmental impacts have caused a
14 general rethinking of future energy development.
15 I think that includes even a greater emphasis than
16 before on conservation of resources and improvements
17 in energy utilization. It is apparent that our
18 most urgent conservation measures are required in
19 petroleum and natural gas. Projections of the
20 availability and deliverability of these resources
21 indicate that the Canadian demand will exceed the
22 domestic supply for both in the early 1980's.
23 Therefore, priority must be given to the improving
24 of the utilization of these resources as well as
25 finding substitutes for them and, of course, trying
to increase their supply.

Our studies so far have indicated two



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3 major areas which are within the Terms of Reference
4 of this Commission in which significant reductions
5 in demand for these resources can be achieved. In
6 addition the substitution and developement in these
7 areas will permit an overall reduction in the demand
8 for energy resources, although in one case this will
9 be a cue to increasing electrical energy consumption.
10 The two areas are (a) the electrification of
11 transportation modes, and (b) the combined purpose
12 use of thermal electric power plants.

13 I would like to call on my colleague,
14 Professor Lukasiewicz, to talk about this first area.

15 THE CHAIRMAN: Sorry, Professor, would
16 you mind spelling your name for the record?

17 PROF. LUKASIEWICZ: Lukasiewicz.

18 SUBMISSION BY PROF. LUKASIEWICZ.

19 PROF. LUKASIEWICZ: As Prof. Rogers
20 indicated, the topic of rail transportation is
21 perhaps unusual in this context in relation to
22 electrical energy as it is advocating an increase
23 in the generation and consumption of electrical
24 energy, although it would mean a decrease in the
25 fossil energy consumption. Also it will be
economically beneficial in conservation, simply by the
fact that transportation on this continent relies
totally on oil it is an unusual country in that sense.



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2 In Europe, for example, most transportation systems
3 are electrified. Oil, of course, is scarce and would
4 be more and more expensive, and therefore it appears
5 to suggest that, in the name of public welfare, one
6 should in fact move to transportation modes which do
7 not have to rely on oil and, which also are more
8 energy efficient than the modes we are using now.
9 These are the two main points.

10 This is perhaps not the place to get
11 into details, but in all modern countries, 70 to 80%
12 of freight traffic is moved by rail electricity. It
13 is not so done on this continent and there is an
14 indication that it should be, and the reasons are not
15 relevant really to the efficiency. So, to give you
16 some idea of some changes that might result, we have
17 considered a hypothetical scenario of doing this, of
18 shifting traffic to modes that are more efficient
19 and that can be rectified. In that sense, one could
20 talk about shifting intercity passenger traffic, both
21 car traffic and air traffic, to rail and electrifying
22 a large proportion of the rail traffic. One would
23 think of permanent passenger traffic, which may be
24 electrified of the use of short range urban electric
25 cars might be substituted for freight, again, one
could use electrified rail and one can shift traffic
from trucks to rail. For urban traffic,



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3 electrification of trucks for use in urban areas
4 might also be envisaged. If one does all of these
5 things, one would find that one could save about
6 25% of the oil being used in transportation, and
7 that that would require increasing the energy, in the
8 electrical energy of about 10% based on recent
9 figures of Information Canada.

10 If one assumes that the growth in
11 electrical energy generation is about a 7% per annum
12 as forecasted for the next several years, then that
13 change for example to be achieved in a period of ten
14 years, also assuming the traffic growth is sustained,
15 that would give us about 4% per annum that would
16 require an increase in electrical energy generation
17 of about 10% of what is forecasted, in other words,
18 from 7% to 7.8%. This is the sort of order of
19 magnitude one could envisage of these changes. Our
20 suggestion would be that the Commission looks at
21 these possibilities because, obviously, transportation
22 is one of the most sensitive activities to the price
23 of oil, and as we have already experienced, one of
24 the first ones to be in trouble when oil is short or
25 expensive.

26 I will conclude with this and will
27 return the microphone to Professor Rogers who will
28 talk about our other area of interest.



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2 THE CHAIRMAN: Thank you Professor
3 Lukasiewicz.

4 FURTHER SUBMISSION BY PROF. ROGERS.

5 PROF. ROGERS: The other area we
6 believe should be brought to the Commission's
7 attention is, as I mentioned, is the combined purpose
8 use of thermal electric power plants. It so happens
9 that the brief I submitted this afternoon on behalf
10 of the Low-Grade Heat Workshop, had this as one of
11 it's major recommendations. So, I will try not to
12 repeat myself too much.

13 This is a very effective way of
14 reducing the demand for petroleum and natural gas
15 for either base heating or industrial purposes by
16 using combined purpose thermal plants to provide
17 thermal energy as well as electrical energy. This
18 permits, then flexibility in fuel supply using coal,
19 uranium, and even hydro for these purposes. I think
20 I would like to emphasize that the ultimate
21 improvement in overall energy utilization is
22 possible with this approach. For instance, we have
23 estimated that for one CANDU reactor unit of the
24 Pickering type - it should be feasible to utilize
25 about 60% of the input energy for useful purposes,
compared to a nominal figure of 29% for it's
efficiency as a straight electrical generator.



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3 This approach, as I mentioned this
4 afternoon, also has the advantage of possibly
5 reducing air pollution in urban areas and reducing
6 local thermal pollution in waters that are used
7 for cooling purposes. Sweden and West Germany both
8 have significant plans to utilize this form of power
9 system, power and heat system, and these plans
10 involve quite significant projected savings in total
11 energy consumption as well as economic savings in
12 both these countries.

13 Irrespective of what overall demand
14 reductions will eventually be achieved, we believe
15 that the earlier forecast of increasing electrification
16 of our energy will remain valid. Therefore, it becomes
17 even more imperative in the future to improve on the
18 utilization of resources and reduce the potential of
19 thermal pollution in electric power plants. We
20 believe that the combined purpose of power plants are
21 effective means of accomplishing these goals.

22 We recommend that Ontario Hydro seriously
23 consider the construction of dual purpose thermal power
24 plants in it's future planning and that appropriate
25 mechanisms be developed to ensure that this can be done
in particular, we recommend that serious consideration
be given to conversion of one of them, Pickering B
station units to this purpose, using it to provide



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district heating to the proposed Pickering town site. I am aware that a study is being undertaken by the Ontario Energy Ministry on this possibility, at this time.

To sum up, we feel there are two significant methods for substitution for oil and gas and these include the two schemes that we have described here. These methods will result in the overall reduction in energy demand, although electrical demand may be increased and they should result in some reduction in air pollution and thermal pollution. This increase in electrical associated with an overall decrease in energy requirements is, I think, paralleled by the planning in Sweden, where as we know, they have a planning target - it isn't really a goal - it is a planning mechanism that involves reducing energy growth rates to perhaps 2% by 1985, and zero by the year 2000. But, they still envisage a decrease in the relative energy supply by electrical means.

We recommend these alternatives be incorporated wherever possible into the electric power planning process in Ontario. Thank you very much.

THE CHAIRMAN: Thank you very much, Professor Rogers.

I would like to ask a rather speculative question, have you any idea, taking Pickering B as a



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2 possibility, how long it would take for a dual purpose
3 power generating station to be ready? Is it in the
4 order of, say, ten years, fifteen years, twenty years?
5 I have put you on the spot a bit.

6 PROF. ROGERS: Yes, you have. I am
7 certainly no expert on the planning and logistics of
8 building a nuclear power plant. I have been involved
9 with their design but not with their construction. I
10 don't see any basic reason though why the dual purpose
11 plant itself couldn't be built as quickly as a standard
12 plant. It has a couple of different types of turbine,
13 of course, as you will appreciate, and a few extra
14 heat exchangers, and obviously some control equipment.
15 But, I don't see any reasons - and this is just a guess
16 on my part - why it should take much longer to build it.
17 Now, into the question of the utilization of that energy
18 in a district heating system or in an industrial park
19 or an energy park for industry, that might take a little
20 longer to build up to a load of significant size,
21 although, in fact, plans were made, accomplished in
22 prompt fashion, I don't see why that couldn't be
23 undertaken at the same time as the plant is being built.
24 Now, I am really out of my depth here, I am guessing.

25 THE CHAIRMAN: Why I asked the question,
of course, was because I wondered whether it might fall
within the period, well, it certainly falls in the



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2 period 1983 to 1993 and beyond, so, it certainly falls
3 into this range, particularly, and beyond, in the
4 optimistic ---

5 PROF. ROGERS: I think it would. I think
6 one concern the people might have would be the turbine
7 for a large unit like this, a 500 megawatt unit, there
8 aren't any extraction turbines of that size available
9 now, but there are some 200 plus megawatts and I know
10 in Sweden there is one on the drawing boards at 500
11 megawatts. There are others more expert here that
12 might want to add to this later.

13 THE CHAIRMAN: Well, you have given us
14 a very good picture.

15 DR. STEVENSON: I have one question for
16 Professor Lukasiewicz. Your suggested new use of
17 electrical energy for transportation in Canada is
18 interesting. Ontario Hydro keeps saying to critics
19 of 7% annual load growth that there are upside risks
20 to that 7% as well as downside. You have indicated
21 one upside factor. I'd like to know whether the paper
22 you have shown in the bibliography of this submission
23 by yourself on oil and transportation in Canada and
24 the United States, contains the numbers that we would
25 need to come to some assessment of the economics of
electrified transit in Canada.

PROF. LUKASIEWICZ: I think it does.



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3 Of course, to determine how much it costs to electrify
4 railways and what capital is involved, that cannot be
5 done in any general way. As far as I know the only
6 people who have ever looked at this in any serious
7 manner is C.P. Rail who are considering electrification
8 in Calgary and Vancouver, as they have very heavy
9 traffic there. As would be expected, they have decided
10 that there are higher corporate priorities than that,
11 simply because railways don't bring much profit, if at
12 all. So the crux of the question is that so long as
13 the railway mode is supposedly based on private sources
14 or on compensation of operating losses, without any
15 financing of the infrastructure, which in fact is
16 available to all other transportation modes - so long
17 as this is the picture, there is no hope for any
18 organization in Canada. I think this is the issue.
19 If you talk about a ballpark figure of costs, I think
20 one would have to assume that it's anywhere between
21 \$150,000 and \$350,000 a mile capital cost. These
22 figures are based on studies done in the States
23 recently. Antrak has been doing some studies on
24 several routes and figures have been published for
25 this. So, if you then assume that there are something
like 12,000 miles of high density traffic in Canada
between - depending on which number you take - you will
get a total cost \$2 and \$4 billion. It is that type



1
2 of ballpark figure.

1:16 3 MR. COSTELLO: Does that cost include the
4 locomotive?

5 PROF. LUKASIEWICZ: Yes, it does. And
6 the one advantage is that locomotives are much cheaper
7 and last longer and don't cost as much to maintain.
8 So, instead of replacing diesel locomotives which you
9 have, you replace them with electric and, that includes
10 that type of calculation.

11 MME. PLOURDE-GAGNON: Professor Rogers,
12 when you mention the electrical mode of transportation
13 in the way to commute, do you really think it would be
14 an internal system that would be in Ontario?

15 PROF. ROGERS: I would refer to Professor
16 Shea. He's a lot better in French than I am.

17 PROF. SHEA: It would be a national
18 system as well as a provincial system. Many rail
19 systems in Ontario have a high utilization rate.

20 MME. PLOURDE-GAGNON: So if Ontario did
21 decide to go from fuel oil to electrical, the rest of
22 Canada would follow?

23 PROF. SHEA: Well part of it has to be
24 decided by Toronto, but we are not talking about a
25 provincial system, we are talking about a national
system. Therefore, there would have to be a consensus.
But, there are many high density rail systems in



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2 Ontario and this is why we could be the leaders.

3 MME. PLOURDE-GAGNON: We are talking
4 about rail systems, but do you think we could also
5 relate it to the automobile?

6 PROF. SHEA: At this time we cannot
7 because the electrical vehicles and the cost of these
8 vehicles right now are not well known and we need
9 more studies on the subject.

10 MR. COSTELLO: Professor Rogers, are
11 you aware of the Klimoff study on the ability of
12 generating a percentage of their own electrical
consumption?

13 PROF. ROGERS: Yes, this summer we
14 did a study on the utilization of low-grade heat
15 in Canadian industry and the Klimoff study was
16 certainly one of our main references for this.
17 That certainly indicated initial savings in industry
18 and the use of energy altogether. This is in
19 agreement with the result of the studies in the U.S.
20 and also in agreement with the projections that have
21 been made in a study for the Science Council of Canada
22 by Professor Dulmadge, issued this past summer. They
23 suggest that improvements in energy utilization in
24 industry - ballpark numbers in a short to medium term,
25 might be 10 to 15 to 20%. So, we are in that area and
this also takes - this seems to fairly well agree with



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3 estimations in American industry too. Does that answer
4 your question?

5 MR. COSTELLO: More or less. I think you
6 made a reference to a 50% saving in the pulp and paper
7 industry and, now that the potential is there, we
8 haven't been able to make the economics work out. I'll
9 talk to you about it later, we have some information
10 you might be interested in.

11 PROF. ROGERS: Yes, we would. We did
12 look at the pulp and paper industry as one of the major
13 concerns and, certainly, there is a possibility of not
14 only improving the utilization, but also the greater
15 use of internal fuels, black liquors, etc.

16 THE CHAIRMAN: Thank you Professor Rogers
17 and Professor Lukasiewicz. It is particularly
18 gratifying that the Universities, of course, are making
19 these efforts and carrying out basic research in an
20 area of such considerable concern to all of us and
21 God speed in your efforts.

22 Next, we have a Mr. Jim Collins. You
23 were here last night.

24 MR. COLLINS: That's right.

25 SUBMISSION BY MR. JIM COLLINS, SOLAR

ENERGY CHAPTER IN OTTAWA.

MR. COLLINS: I don't know that there
is much I can say that probably hasn't been said before.



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3 I can tell you a little bit about the local chapter of
4 the Solar Energy Society of Canada. A group of us
5 here in Ottawa decided about six months ago that one
6 of the major impediments to the implementation of solar
7 energy on a widespread scale is that not very much is
8 known, and there are institutional impediments and
9 people who could do something about it, don't get
10 much chance to talk to each other. So, we have had
11 a total of five meetings in the last six months and
12 the dealing with this subject, heat pumps, solar energy
13 or energy conservation, and solar heating too and the
14 institutional impediments to solar energy.

15 It is kind of interesting to note that
16 the first solar energy measurements in Canada were
17 done in 1911 in Toronto by a guy named Patterson.
18 But, today there is no real knowledge of what potential
19 there is for solar energy in Canada. This could be
20 compared to nuclear energy, where work began in 1945
21 and has a million dollar per year program.

22 Some people feel that solar energy is
23 not economic. The example has been given of Alpine
24 glass in the U.K. where, after the war, they mounted
25 a major campaign to convince people they should
invest in double glazing of their windows and they
did a tremendous job of their promotion. They gave
installation manuals to the local contractors. People



1
2 who have been duly convinced that double glazing was
3 a good idea, went around the corner and bought the
4 material from other suppliers and installed systems
5 for about a 20% reduction.

6 Solar space heating is in much the same
7 boat as the glass and, and are widely available from
8 a large number of sources, and therefore, it is not
9 really in the direct interest except for the local
10 contractors to push solar heating. In keeping with
11 comments of last night about the \$31,000 per year
12 and so on, this is perhaps an indication that the U.S.
13 approach to funding of solar energy research and
14 developement is not in the offing, and therefore,
15 from the provincial perspective to be more favourable
16 towards institutions such as Ontario Hydro because it
17 is control agencies enter the research and developement
18 program, fund our community colleges, architectural
19 engineering groups across the province. Community
20 colleges, architects, and so on would compete with
21 demonstration projects, typically involved with thermal
22 - couples, etc. They would collectively develop the
23 experience which is necessary from a widespread
24 implementation.

25 Seeing as how so little has been done in
Canada, it might be useful to mention some of the things
going on. One particular example is the Grace Research



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2 Institute which has been engaged in the solar and wind
3 research for the past 15 years. They are associated
4 with McGill University and given an endowment of
5 approximately \$100,000 a year, a lot of which goes to
6 administration, and some to research. But the bulk of
7 it has gone to develop a what is known as appropriate
8 technology for underdeveloped countries. The largest
9 windmill available in the world was available through
10 the Grace Research Institute.

11 In the Canadian context, perhaps the
12 principal contribution is the development of the
13 solar heated greenhouse financed by the Quebec
14 Provincial Government, which is essentially a very
15 simple design which cuts your heating costs in half
16 and increases plant production in the wintertime
17 through the use of a insulated north wall with a
18 reflective surface, rather than glass. There are
19 indications that by combining this technology with
20 such things as waste heat utilization and waste space
21 utilization, that many fresh fruits and vegetables
22 which are currently imported at cost from the southern
23 states in the wintertime, would be more economically
24 produced in Canada. In this vein, the Ministry per se,
25 and Urban Affairs, Urban Development, are financing
a rooftop greenhouse program in Montreal. They have
also financed an appropriate housing for Quebec Indians



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1:22 2 which involves solar heating and so on.

3 Just briefly - I know that there are
4 other projects, there is one in Gananoque utilizing
5 waxed door technology, and the system in Toronto which
6 utilizes seasonal storage, and the Lorriman house in
7 Mississauga using a heat, dual storage combination.
8 These are some interesting side points to some of these
9 things, but the Lorriman design utilizes collectors which
10 cost over \$10 per square foot. However, one was
11 imported from Israel via L.A. and the other was
12 imported via the States and generally, the U.S. designs
13 make use of the world technology, however it is possible
14 that there are cheaper methods of fabrication. I don't
15 want to belabour this because I don't know all that
16 much about solar energy either, but I do believe there
17 is a lot of things that aren't known by people who
18 downplay the role of solar energy. For example, the
19 Solar Energy Conference here in Ottawa on June 2nd and
20 3rd - the gentleman from UBC pointed out that current
21 estimates in amount of solar energy actually available
22 from the kind of data which has been collected, range
23 from two thirds more to five thirds more, due to the
24 refraction off the snow, and the sun is at such a low
25 angle that by measuring perpendicular rather than
horizontal, there is considerable energy available.

24 In closing, it seems to me there are three
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2 things necessary to the developement of solar heating
3 technology. Firstly a public awareness of the problems
4 and potential of solar energy. Groups such as ours
5 are trying to do something about that. Secondly, there
6 is a lack of expertise capable of supplying consumer
7 demand, if such were available. And thirdly, there is
8 a capital problem. There isn't a lot of capital
9 available and capitals available are at quite high
10 cost. To address that I would like to say at present,
11 apparently, EMR is has obtained estimates of \$212 million
12 or \$31,000 per family, based on 1974 dollars, to be
13 spent on energy capital expenditures. This does not
14 include expenditures on energy conservation for
15 available energy sources. People complain about the
16 economics of solar energy, but it must be pointed out
17 that nuclear power is not economical either. It should
18 also be pointed out that the Federal Government has
19 spent more than a billion dollars on nuclear power
20 developement. Pickering has only been in operation for
21 five years, so it is a little early to make realistic
22 economic estimates. The whole issue of conventional
23 economics is investment - infrastructure in the face
24 of non-renewable resources need examination.
25

Other speakers have indicated many things
which are highly capital intensive. The opportunities
of conservation and solar energy are too real to be



1
2 ignored. Thank you.

1:24 3 THE CHAIRMAN: Thank you very much Mr.
4 Collins. I'm going to ask you if you could explain -
5 certainly to the members of the Commission because if
6 you don't they will ask me to and I know that I can't
7 - just the concept of the heat pump. I ask this in
8 particular, because I can assure the audience that in
9 the next five or ten or fifteen years or so we are
going to be hearing more and more about heat pumps.
take 2 10 Could you, in very simple terms, give us ---

11 MR. COLLINS: The best way to explain
12 it is that the NFB has put out a film, Bill Loosley's
13 Heat Pump, about a gentleman in Burlington, Ontario,
14 who installed a ground to air heat pump in his home
15 and it has excellent schematics which demonstrate very
16 well the operation of the heat pump. Other than that,
17 I can say a heat pump is basically what you have in
18 the home in the form of a refrigerator. It pumps heat
19 from inside the freezer unit to the outside back coils
20 and does that through the controlled expansion and
21 contraction of a gas fluid cycle of a liquid such as
22 freon. But, the general point of it, all it is doing
23 is upgrading a low-grade heat to a high-grade heat.
24 For example, in Bill Loosley's home in Burlington
25 Ontario, he has all these coils in his yard that are
down below the frost line which maintain a temperature



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2 below 45 degrees fahrenheit in winter and it is
3 possible to extract that heat at very low energy cost,
4 and he quotes heating bills of something like \$70 a
5 winter in the film. Through the use of a minimum
6 input of electrical energy. There is a number of types
7 of heat pumps - air to air, and water to air, and ground
8 to air. Commercially available units are only air to
9 air and I think there are a few water to air as well.

10 THE CHAIRMAN: Thank you very much. You
11 did a very good job explaining it. You have saved me
12 from considerable embarrassment, when the Commission
13 may have asked me, as an ex-physicist, as they may
14 well have done.

15 DR. STEVENSON: I must say I am glad
16 to hear mention of Roger Aiken. Is he still in
17 Minnesota?

18 MR. COLLINS: Yes, he is with the
19 University of Minnesota, their space technology Centre
20 or something like that, he is very involved in solar
21 energy.

22 DR. STEVENSON: I know. He has been
23 carrying on a very lively correspondence for years
24 with anyone in Queens Park who will listen to him.
25 In the question of solar energy, I wonder what he
is doing?

MR. COLLINS: If I could say one thing



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2 he has done is he has taken perpendicular energy
3 measurements of solar energy available and the
4 reflection of the snow in February, at least in
5 Minnesota, there's more than double what is currently
6 estimated. That is a small point perhaps.

7 THE CHAIRMAN: Is Dr. Cockshutt here.
8 To our session.

9 SUBMISSION BY THE NATIONAL RESEARCH COUNCIL
10 OF CANADA, per Dr. E. P. COCKSHUTT.

11 DR. COCKSHUTT: Dr. Porter, and
12 Commission members thank you very much for the
13 opportunity to speak very briefly to the Commission.
14 I am afraid I am another of these wretched technocrats
15 who were dealt with fairly brutally last evening, and
16 I hope we can have our day, if only briefly.

17 The point I wish to speak to is one
18 which has received some attention in the international
19 technical literature. It is a concern relative to
20 net energy in a rapidly expanding generating system,
21 such as the - it certainly appears - Ontario Hydro will
22 be over the next 15 or 20 years. The suggestion is,
23 that given certain conditions, that it is possible for
24 the system to be expanding at such a rate that rather
25 than producing net energy for the consumers from the
system, there is in fact an ever increasing input of
energy into constructing a bigger and bigger supply



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3 system.

4 In order to come to grips with this
5 concept quantitatively, there are three parameters
6 which must be identified. One, of course, is the
7 growth rate of the system, the percentage increase in,
8 say, nuclear reactor generating capacity, and obviously
9 if that is too high, we are potentially in trouble.
10 Secondly, there is the commissioning time of the total
11 time between the go ahead of the project and the time
12 when it comes on line and is, in fact, producing
13 useful power. This is the construction commissioning
14 time, and hopefully, that will be as short as possible.
15 So, that if you will, energy is not tied up while the
16 system is being constructed. The third parameter that
17 needs attention is the payback time, if you will, the
18 length of time that a plant must operate in order to
19 repay the energy which is gone into construction.
20 Clearly, one hopes that payback time will be short,
21 that only a very short time of operation will be
22 necessary to repay the energy of construction.

23 Typically, if one assumes, as has been
24 publicly suggested, on expansion rate of nuclear power
25 generators of $13\frac{1}{2}\%$, the construction and commissioning
time of $7\frac{1}{2}$ years, at a payback time of $2\frac{1}{2}$ years, then
in a dynamic situation such as that with continuous
increase of generating capacity, something like two



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3 thirds of the power produced by the system
4 instantaneously is, in fact, being consumed in further
5 construction. In fact, if the payback time rises to
6 $3\frac{1}{2}$ years, eventually there is no net energy output but,
7 in fact, an equilibrium.

8 One of the dangers of this situation is
9 that the energy deficits may not be recognized. It
10 is not necessarily electrical energy which is being
11 consumed in order to construct the plant to - perhaps
12 not even in the production of heavy water, but, there
13 is nonetheless energy consumption in both those
14 commodities. I would make it very clear, Mr. Chairman,
15 that the phenomenon I have described is not in any
16 sense restricted to nuclear generating capacity. It
17 is true of any capital intensive system, of perhaps
18 the solar energy heating system referred to previously,
19 and certainly the hydraulic power generation, possibly
20 wind - any system that is capital intensive should,
21 if you will, undergo an analysis of this type that I
22 have suggested.

23 We would accordingly suggest that in
24 looking at the rapid expansion of the generating
25 system, that very careful attention be paid to these
three parameters - the annual growth rate of the
system, the commissioning time, the construction
commissioning time, and the energy payback time and



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2 that very serious efforts be made to obtain the data
3 in order to permit analysis of this type to go forward.

4 THE CHAIRMAN: Thank you very much Dr.
5 Cockshutt. The only work that the Commission is aware
6 of, in detailed work in this area, is the work under-
7 taken by someone at the open University in Britain.
8 I can't think of it's name off hand. Do you know of
9 those studies?

10 DR. COCKSHUTT: Would this be the
11 original study of Chapman that you are referring to?

12 THE CHAIRMAN: That's right.

13 DR. COCKSHUTT: Yes, I believe his
14 initial work has been responded to by several other
15 authors. I think at least some of those papers - I
16 could give you the references if this would be of
17 any help.

18 THE CHAIRMAN: That would be my next
19 question, actually. We would very much welcome any
20 of the literature in this area.

21 In so many fields one is all too ready
22 to ignore perhaps how much energy you are putting into
23 a system to get something out of it. I think the Tar
24 Sands would be another case in point. How much energy
25 are you going to need to cope with the environmental
problems and so on. As you point out - and I don't
know if it is rightly because I am not sure what the



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2 bases of these data are, but very clearly as you point
3 out, this whole situation has got to be subjected to
4 continuing minitoring and we are grateful you have
5 raised the question.

6 DR. COCKSHUTT: If I could just add one
7 further comment. Although the international
8 literature does deal with a variety of reactor types,
9 I am not aware of any published studies dealing
10 specifically with the CANDU system, in particular,
11 with it's significant heavy water requirement. We
12 believe that Ontario Hydro may well have had occasion
13 to ask these questions themselves, but as far as we
14 have been able to ascertain, that is not in the
15 public literature, in the public domain right now.
16 But there is, if you will, a unique Canadian aspect
17 which needs addressing.

18 MR. McCAGUE: I believe, Dr. Cockshutt,
19 you answered the question I was about to ask as to
20 whether you could relate these three matters to the
21 developement in Ontario, such as Pickering.

22 DR. COCKSHUTT: Well, the answer is we
23 do not have specific data for the CANDU system. The
24 three numbers I have quoted in there are only pulled
25 out of the air. We do not have good data relative
to the Pickering site.

DR. STEVENSON: One of the younger



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3 researchers of the Ontario Ministry of Energy has
4 tried to keep on top of the work of Dr. Odum at the
5 University of Florida and his school, including a
6 man named Schachter in Oregon. Would you call this
7 school of thought - do they have the same general
8 interest in the balanced studies as yours or who
9 would you relate them to.

10 DR. COCKSHUTT: I believe the work
11 you refer to is one of, if you will, of general
12 net energy accounting and, if you will, I believe the
13 growth phenomenon that we described here is one
14 manifestation of that. We would have to confess some
15 hesitation in saying that we adequately can do energy
16 modelling at present. First of all, one has to have
17 good data for static energy modelling and to simply
18 describe within a given situation what the true net
19 energy costs are. Only when you have got the static
20 situation described, can we pass on to the dynamic
21 one, which we are dealing with here, the situation, if
22 you will, of affects financial growth. So we are
23 certainly talking about the same things. We may be
24 talking about the difference in statics and dynamics.

25 THE CHAIRMAN: Do I take it, Dr.
Cockshutt, that there is work going on in this field
at the National Research Council at present?

DR. COCKSHUTT: The Research Council



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2 is part of the general interdepartmental Federal
3 Government R and D thrust on energy matters and NRC
4 has perhaps 20% of the overall energy R and D program.
5 We are specifically tasked with the areas in the
6 renewable, the solar and wind fields, in the fusion
7 area, which of course will probably suffer the same
8 rapid growth problem perhaps in 20 or 30 years time,
9 and the fields of building energy conservation, heating
10 and cooling of both residential and commercial buildings.
11 In these areas NRC has major commitments to the energy
12 program and we would call the Commission's attention
13 to the overall co-ordinating role played by Energy
14 Mines and Resources, and NRC, if you will, is part of
15 that Federal Government team.

15 THE CHAIRMAN: Thank you very much, Dr.
16 Cockshutt. It is very interesting to note that my good
17 friend Ken Tupper has been involved with that project.
18 Thank you. Is Dr. Stephenson also with the National
19 Research Council, welcome.

19 SUBMISSION BY DR. D. G. STEPHENSON,

20 THE NATIONAL RESEARCH COUNCIL.

21 DR. STEPHENSON: Thank you Mr. Chairman.
22 I want to present some views to the Commission. I
23 hadn't realised that I would be speaking so closely
24 behind Professor Rogers and so close to the same subject,
25 but a good idea bears repetition, I hope.



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3 I have only two real points to draw to
4 your attention. The first is that the planning of the
5 electric power system should be done in conjunction with
6 the planning of the other parts of the overall energy
7 system. It cannot be properly looked at in isolation.
8 For example, the heat needed to heat buildings and
9 sanitary water can be provided in several different
10 ways. We can do it as we are doing now, by burning oil
11 or natural gas at each building. We can do it by
12 producing electricity at a central plant and then from
13 uranium or coal and distributing that, or the electricity
14 from that source to the buildings where it can be
15 converted into heat. Or, alternatively, we could
16 distribute hot water from a central heating plant to
17 the buildings that need heat. That heat could come as
18 Professor Rogers pointed out, be a by-product of the
19 production of electricity, or one could look at it the
20 other way around and say that the electricity is the
21 by-product which results in an efficient utilization
22 of energy, whose primary purpose is the generation of
23 heat.

24 The choice between the various option
25 depends on of course the availability of the various
primary fuels and on the other competing demands for
them. One cannot say a priori, which of the various
ways would be the most opportune.



I suggest, therefore, that your Commission should examine all the various sectors of energy use in Ontario and establish how these energy needs should be satisfied in the best interests of the people of Ontario and of all Canada. This examination will enable you to see just what role the electrical power system should play in the overall plan for energy. That is the point that we can't look at the electric power system in isolation. Now, if I may, I would like to deal specifically with the energy needed for space heating and heating sanitary water. This is a large part of our total, in fact, about one quarter of all the energy used in Canada goes for these two every day purposes. At present most of this heat is produced by burning either oil or natural gas. I am not giving away any secrets to say that the demand for these fuels is certainly expected to exceed the supply in just a few years time. So, the question is what will happen then? I think it is quite likely that part of the space heating and water heating demand will have to switch from oil and gas to coal or uranium, and it is also possible that a minor part of it might be handled by solar energy. But, the coal and uranium, if we switch to coal and uranium, the part that does switch to those two fuels will have a profound effect on the development of the electric



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2:35 power system. I believe the substitution will occur in this sector of space heating and water heating rather than in transportation or industry, at least to a greater extent than in those two others, because it can be made in the heating sector very economically and without waiting for the developements in any new technology. The technology we need for it is already available and it is already economically viable.

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Therefore, assuming this switch in primary fuels for heating buildings does take place, how will the energy be delivered to the consumer's premises? There are just three possibilities. The first is in the form of electricity. It could be done in the transmission. Distribution could be done in the form of hot water, or as a synthetic fuel. I excluded the possibility of turning back to delivering coal with the necessity of removing ashes as well.

I would like to draw your attention particularly to the practice in the Soviet Union, Sweden and to a lesser extent in other countries of Northwest Europe, where thermal power plants are used to produce both electricity and hot water. The water being used to heat buildings and the sanitary water in these buildings via a district heating distribution system. Combining the production of hot water and electricity raises the utilization factor for the



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2 energy in the primary fuel by a factor of more than
3 two. It will raise it to something better than 75%,
4 whereas, one generates only electricity, the utilization
5 factor is around 35%. The cost of the heat that is
6 obtained in such a combined heat - power plant is only
7 between 10 and 20% of the cost of energy in the form
8 of electricity. This great differential between
9 electric energy and heat energy makes it possible,
10 makes it practical to construct hot water transmission
11 systems to transport this low-grade heat for distances
12 of up to 50 miles. Now, if this approach were to be
13 used in Ontario it would certainly have a major effect
14 on the type, the size and the location of the new
15 generating station and perhaps even on the fuel that
16 you will use in those stations, be it nuclear - uranium
or coal.

17 My second suggestion, therefore, is that
18 your Commission should examine each of the possibilities
19 for heating buildings before you make any recommendations
20 on how the electrical power system should be developed.
21 There could be a very great difference in the loans
22 and in the requirements and in the best location for
23 components of that system, depending on which of those
options was selected.

24 And finally, I think you should state
25 explicitly in your reports, both interim and final,



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2 which of the ways of heating buildings you consider
3 to be most appropriate for different regions of Ontario.
4 Your other recommendations would be then based on the
5 assumption that this sector would be supplied in this
6 optimum way.

7 If you should decide to pursue these
8 suggestions, I should be pleased to offer you additional
9 assistance if you wish.

10 THE CHAIRMAN: Thank you, Dr. Stephenson.
11 I can see right now that additional assistance will be
12 sought, without any question. This area - the whole
13 topic which you have raised is of considerable interest
14 to us.

15 There are one or two points that perhaps
16 I would like to raise. When you say that energy needed
17 for space heating and heating sanitary water takes
18 about a quarter of all the energy used in Canada, do
19 you include all the energy needed in transportation,
20 that is automobile and transportation in general?

21 DR. STEPHENSON: Yes, there are three
22 major factors, one being the energy used in residential
23 and commercial buildings, heating being the largest
24 part of that, energy for lights is also included. The
25 second largest sector is the energy for transportation.
The third one is lumped together, energy for industry.
Finally there is a fourth and growing sector which is



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2:38 2 the energy used in the energy industry itself to
3 produce the waste energy which is associated with the
4 production of energy that goes to the three useful
5 sectors. That waste component is approaching in
6 magnitude each of the other three, or will do as we
7 become more thermal electric - thermal type of electric
8 generation.

9 THE CHAIRMAN: You suggested that the
10 Commission should examine the various sectors of energy
11 use in Ontario and in Canada. You will be interested
12 to know that the Ministry of Energy very recently has
13 undertaken a study in this area strongly backed by
14 this Commission. This would consider the first part
15 of the question you raised, but the second part is
16 how these energy needs could be used in the best
17 interests of Ontario and Canada - these would fall
18 outside of that study. But that is in hand I believe.

19 DR. STEPHENSON: What I really wanted
20 to suggest was that you would look at the possibility
21 of supplying heat needs for space and water heating
22 as it might relate to the use of waste heat, or that
23 would otherwise be waste heat from the generation of
24 electricity, rather than assuming that if we have to
25 give up using oil and gas, the only alternative is
in fact to use electricity rather than the by-products.
I would bring you back to the point that you made



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3 last night that our aim always ought to be to minimize
4 this generation of entropy, and certainly using heat
5 to generate electricity and then turning the
6 electricity back into heat is not following your own
best advice.

7 THE CHAIRMAN: No, that's true. Thank
8 you.

9 DR. STEVENSON: One of the things that
10 puzzled me as an amateur in this kind of discussion
11 is the treatment of steam, the actual sale of steam
12 by a generating utility to industry. We are talking
13 about the use of low-grade heat, but how does this
enter the calculation?

14 DR. STEPHENSON: Well, where there is
15 an industrial use for steam, I think it makes very
16 good sense to plan that as part of the overall energy
17 developement but, the use of the low-grade heat that
18 I'm speaking about would really be utilizing hot
19 water rather than steam. The practice in Europe has
20 been then the limited practice that we have seen in
21 this country, in that they do use water for the few
22 district heating systems that exist in North America,
23 predominantly use steam. The advantage of water rather
24 steam is that it allows you to store heat. You can
25 generate hot water at the time when you need to run
the plant in order to meet the electric load. You can



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2 store that hot water in large reservoirs and use it
3 at some different later time, when required, for the
4 heating requirements. This isn't possible - certainly
5 not nearly as convenient as the steam for the medium.

6 THE CHAIRMAN: Thank you very much indeed
7 Dr. Stephenson. As I mentioned before, you can be
8 assured we are going to be in touch with you. Dr.
9 Stephenson incidentally is head of the Building
10 Services Section of building research at the National
11 Research Council. Thank you for coming. Is Mr.
Eggart here?

12 DR. STEVENSON: Are you the chief expert
13 of installation studies as well?

14 DR. STEPHENSON: My group are concerned
15 with measuring the properties of installation. We are
16 the group within the National Research Council
17 concerned with the question of energy conservation
18 involved in residential and commercial building. We
19 are also the group in the National Research Council
20 concerned with solar energy work. So, we cover the
waterfront in that respect.

21 THE CHAIRMAN: Thank you.

22 SUBMISSION BY MR. W. EGGART.

23 MR. EGGART: I actually prepared a brief
24 which I intended to lead off, but I will rather restrict
25 myself to some of the comments, because most of the



1
2:41 2 topics were brought up here. I am very disappointed
3 to hear a very great deal about conventionalism. I
4 am talking about thermal plants and nuclear plants.
5 A man by the name of Carter who had done a wind study
6 across the North American continent which means he
7 designed windmills. I am not talking small scale but
8 a scale that is so astronomical that this windmill
9 could provide energy - all the energy needed across
10 Canada. I think he is now in Washington. I also
11 want to talk about our life style and the general
12 public education. I work in a hospital and there are
13 some comments in my brief which I had originally
14 prepared, where I say that our kilowatt hour
15 consumption per patient day, which is actually a day
16 a patient stays in a hospital and occupies a bed,
17 the kilowatt hour consumption is 53.5 kilowatt hours
18 per patient day, and I think right now 20% of that is
19 used for air-conditioning. It annoys me to a very
20 great factor that only about 10% of the area where
patients are is air-conditioned and the rest is for
office spaces and laboratories.

21 We are subject to pressure groups and
22 they insist on air-conditioning or they walk out.
23 Nobody can tell me today that the equipment is
24 designed not to work when it is 80 degrees outside.
25 We have to put up with it. The air-conditioning lowers



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3 our power factor and we obtain actually twice for it.
4 Maintenance factors are very high. This is the type
5 of thing that bothers me. Perhaps educating the people
6 to be more tolerant and more understanding and give up
7 a little bit of the great comfort. Ninety percent of
8 the people don't have air-conditioned homes yet. I am
9 afraid that this will eventually happen and our energy
10 is not being used in a productive manner, but it is
11 simply dumped into the atmosphere. It is a crime that.

12 I want to talk about the power lines
13 which were given to us in the blue paper. I do not
14 appreciate these large scarecrows that are situated
15 everywhere, especially approaching a city, it creates
16 the feeling of a nightmare. We have one nightmare
17 already running around on four wheels burning up our
18 fossil fuels. How come we can't use the four-lane
19 highways, which is just there for a safety margin, to
20 bury our hydro cables in. I don't think the insulation
21 has been designed to handle the large voltages. But,
22 I know it can be done. This is primarily my concern,
23 public education, the better realisation of waste spaces
24 which are the highways, where perhaps the cables can
25 be buried, the solar energy developement and perhaps
more hydro-electric - hydro is a type of energy which
is constantly replenished by our water cycle and it
has no expenditure of fuel which we cannot recover,



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whether it is coal, gas, uranium, nuclear, you name it. We are always thinking in conventional terms. Why not get out of it?

You also talk about the future. I am very concerned about the future, my children will be around then and saying what have you done. At least I was here and talked about it, thank you.

THE CHAIRMAN: Thank you very much Mr. Eggart for coming and talking about it. You will be interested just to know that in Manhattan, for instance, where air-conditioning in summer is perhaps reaching the peak of anywhere on earth, there is eight times the density of thermal density, eight times that of the solar energy falling on Manhattan, and that gives you an idea of what might happen. In Moscow it is four times, but in Manhattan it is eight. I think that no city in Canada actually comes anywhere near that sort of thermal density. Thank you very much.

Is Tony Friend here?

SUBMISSION BY MR. TONY FRIEND:

MR. FRIEND: I would first like to make apologies. My first apology is that I wrote this brief, just after my working hours. I wrote it - I scribbled it down and I'm afraid I didn't have enough time to type it, so I will present it this way and I hope you will accept it. I could have it typed if you



2:44 1
2 prefer.

3 My second apology is that I only read the
4 Terms of Reference after I came here and my first
5 thought was to withdraw the brief because I realized
6 it is not strictly under the Terms of Reference of
7 your investigation. However, on second thought, I
8 thought I'd let it stand and the reason for this is
9 that there are underlying principles in this brief
10 which I think could be applied at a broader level.
11 Secondly, I would hope that the hearings that you
12 will be having will have some wide distribution and
13 maybe influence decisions of today as well as the
14 future.

14 The second point and perhaps again, I
15 have to apologize, I am not at all technical, but I
16 am concerned about the problems dealing with the
17 Urban area and particularly the area I live in,
18 Centretown, an area just north of the core area. It
19 is in a city and there has been a number of expressions
20 from residents about the practice of utilizing over-
21 head wiring as a means of delivering power to the
22 consumer. This practice has a very visible destructive
23 impact on the trees in this area and I have also been
24 told by the City Arborer that not only is it a kind
25 of visible pollution, but it is dangerous because of
the cutting of the crowns. Apparently it makes it



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3 very susceptible to wind damage and also to the risk
4 of diseases, and it is what the City Arborer has
5 called butchering of trees.

6 The reason I bring this up is that this
7 is really a micro-problem, but there is an attitude
8 behind it, and this is why I like to generalize, and
9 I think it is an attitude I think should be developed
10 in your consideration of how we can - when you have
11 technical problems - I think all the technologies
12 create - in fact there is an expression used that
13 "affluence breeds effluence." There is an affect of
14 all technologies which creates some sort of
15 environmental deterioration. I think that this is
16 the point I would like to make that we feel even now,
17 today, in the 1970's, the fact that we have still this
18 primitive technology of delivering power, this is the
19 kind of technology that was used to deliver power at
20 the turn of the century. It is a horse and buggy kind
21 of technology and still exists in many of our cities
22 here in Canada, downtown in Ottawa which is extraordinary,
23 and I think you can see that the decision making and
24 the priorities, that this is very unimportant, because
25 in most major cities of the world they have long since
buried these cables underground as conduits. So, in
the brief we have made a suggestion. We submit the
following proposal and this essentially is to recognize



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3 - and I think many of you have been involved in the
4 environmental issues and realise that the costs of the
5 impact of environment deterioration should be borne by
6 the consumer of goods and services. It is - and in
7 economic parlance they use the expression "the
8 internalisation of externalities". In other words
9 what we are saying is that these real costs, and they
10 are real costs, but they are borne by someone usually
11 by the people who don't benefit that much from the
12 consumption of the goods being made. We would like
13 to suggest is to recognize this fact explicitly and to
14 use some kind of starting a fund. We have suggested
15 a surcharge on power. I believe the idea, being that
16 the surcharge would then be brought into a fund which
17 could be then used to bury the overhanging wires. I
18 believe that in this way we could eventually get rid
19 of these overhanging wires. There is, in fact, a
20 program in Ottawa for this, but at the rate it is
21 going it'll be the turn of the century before it will
22 have any visible affects, it is so slow. Naturally,
23 once this program is completed, the surcharge, of
24 course, will be lifted. I think that people will
25 accept these kind of surcharges because, in fact,
they know the reason for it and I think they will
find it very acceptable. Thank you, Mr. Chairman.

THE CHAIRMAN: Thank you very much,



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3 Mr. Friend. Although the issue you have raised is
4 probably a bit beyond the Terms of Reference of the
5 Commission, nevertheless some of the applications are
6 certainly not beyond, as you know, micro-problems,
7 you refer to it as micro-problem areas, very very
8 frequently lead to macro-problems, and I think
9 you're very right to raise this question. It is
10 obviously an important issue which concerns many
11 people, and I personally am glad you raised it and
12 I am sure my colleagues are.

13 DR. STEVENSON: It is interesting that
14 in two submissions, Mr. Friend and Mr. Eggart, both
15 refer to the burying of electric power cable, but
16 there is quite a difference. What you are saying,
17 essentially is that Ontario, that Ottawa Hydro,
18 pardon me, do what many Ontario Municipalities have
19 done for years, and that is put the thing underground.
20 It is just a question of simple costs, that the
21 ratepayers of Ottawa would tell Ottawa Hydro that that
22 is what they wanted to do. And I suppose there would
23 be no difficulty. There is no technical problem that
24 I know of. But, Mr. Eggart's view that we should bury
25 transmission lines is something else again. Dr. Solandt
contributed a great deal to the understanding of people
in that area, and the panel composing, that he had of
experts tried to establish the technical economic



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3:48 3 feasibility of this. So, just to draw the attention
4 to the similar, but really dissimilar positions which
5 you and the former speaker have taken.

6 MR. FRIEND: I would like to consider
7 the question of the internalisation of externalities,
8 that's just a phrase, but what I mean by that is that
9 the impact of the whole hydro development, power
10 development does have a strong impact on the quality
11 of the environment. And I would like to see in the
12 submissions that have been made and the recommendations,
13 that the costs of the deterioration of the environment
14 is included in the cost of power and that the consumer
15 of power pays for it.

16 THE CHAIRMAN: That, is of course, a very
17 basic point and I'm sure that we will pay due attention
18 to it. Thank you very much for coming and for your
19 submission.

20 Mr. Hurst, this is the last of the list
21 of submissions we have. I am not too sure when we are
22 breaking for coffee. Maybe after Mr. Hurst.

23 SUBMISSION BY MR. C. K. HURST.

24 MR. HURST: Mr. Chairman, and members of
25 the Commission, after the technological erudition that
we have had this evening, I feel a little reluctant to
present this amateur's brief. I represent the
Parkdale Community Development Corporation of Ottawa



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2 which is concerned with, among other things, the
3 elderly and the handicapped who are very vulnerable to
4 any vagary in the availability of energy, other than
5 in the form of heat or electricity. It can be a
6 matter of life or death. In addition to the air we
7 breathe, a modern industrial society must have an
8 adequate supply of good quality water and unlimited
9 energy resources. As foreseen in the Paley report
10 submitted to President Truman in 1952 and confirmed
11 by the studies of the Club of Rome, these two
12 requirements have not been assured to us for all time.

13 General A. G. L. McNaughton, in 1955,
14 while he was Chairman of the Canadian Section of the
15 International Joint Commission once forecast that the
16 time would come when the availability of electrical
17 power would be much more important than it's cost.
18 Because of this and our concern for the possibility
19 that the future may see interruptions in the flow of
20 electrical power, we want to suggest three points
21 for the consideration of the Commission.

22 The first one - in the past few years
23 the dimension of environmental concern has been
24 added to the planning and implementation of all major
25 projects, including power plants. This additional
factor has meant a minimum of two years extra planning
time and may result in the complete elimination of



3:50 1
2 projects. Therefore, it is essential that those
3 responsible for providing for future power resources,
4 must speed up early planning to ensure that blackouts
5 and brownouts have occurred in the United States, and
6 rarely in Ontario, will not occur in the future. I
7 think that most people recognize that the present
8 technological society is increasing at a rapid rate
9 in terms of change. This requires a reduction in the
10 time of decision making. However, in the processes
11 today, with the added factors of urban planning and
12 the various levels of Government which are concerned
13 with planning, environmental factors and the various
14 levels of Government which are concerned with that
15 aspect of project development. The planning time
16 has extended, whereas in reality, it should, of
17 necessity, been contracted.

18 A recent statement made in a public
19 hearing in Chicago by a United States Senator and
20 member of one of the Congressional Committees,
21 indicated that the average time now in the United
22 States for the implementation of major projects is
23 17½ years. In Canada it isn't quite so bad. However,
24 when you talk about 1983 and the demands between 1983
25 and the year 2000, you are just a little bit late in
starting your studies because the projects that
should be on line in 1983 should be in the early



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2 planning stages right now.

3 The second point which is maybe not
4 quite so dramatic is that the people of Ontario should
5 be encouraged to conserve energy and I notice recently
6 that the advertising of the Hydro has accented this.
7 But, I think that this needs to be much more strongly
8 developed in the advertising programs for the
9 developement of hydro power or electrical energy of
10 any sort.

11 The third point which I think the
12 Commission should consider very strongly and of which,
13 I think, in a broad general way has been already
14 touched this evening, is that a program of intensive
15 research into new sources of energy should be under-
16 taken and expanded.

17 THE CHAIRMAN: Thank you very much, Mr.
18 Hurst for these three suggestions. I think that Bill
19 Stevenson might like to say a word or two on this
20 question of what is happening before 1983, because as
21 a member of the Ontario Energy Board, it was that
22 board that made recommendations to the Government of
23 Ontario relating to the previous decade, that is to
24 the decade ending in 1983.

25 DR. STEVENSON: Well, I could, Arthur,
certainly. I'm not in sympathy or support of what
you said, Mr. Hurst. Projects that will be producing



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2 power in 1983 are now in 1975, in an early stage,
3 certainly conception and design. The period 1983 to
4 1993 was chosen because the Government had given last
5 year the Ontario Energy Board the task of looking at
6 the program of 1977 to 1982. The Board did that, and
7 subsequently all of the projects in that time period
8 have been given specific Cabinet approval. There is
9 a transition problem, however, between these two
10 approval periods. In and around 1982 we have these
11 priority projects that Hydro says it needs. They have
12 been added to our Terms of Reference, and those of you
13 who were here this afternoon are aware of what problems
14 that creates in peoples' minds. But, the general point
15 that you're making about the terribly long lead times
16 in electric power planning are so clear to us, we are
17 that we are worrying now about the problems in 1983 -
18 how are we going to handle these projects on a priority
19 basis? It seems funny - most of us don't think of
20 events that are going to be taking place so far in the
21 future as urgent matters.

22 THE CHAIRMAN: Perhaps, at this time
23 we may have a ten minute break for coffee.

24 ---SHORT RECESS.

25 ---THE REMAINDER OF THE HEARING IS ON TAPE.

PAGE 1122 FOLLOWS.



THE ROYAL COMMISSION ON

ELECTRIC POWER PLANNING

*Preliminary Meetings of the Royal
Commission on Electric Power Planning*

DATE: Nov. 19, 1975 **TIME:** 8pm

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THE ROYAL COMMISSION ON ELECTRIC POWER PLANNING

Proceedings held at the
New Parkway Motel, in
the Canadian Room,
Cornwall, Ontario, on the
19th day of November, 1975
commencing at 8:00 P.M.

B E F O R E:

DR. ARTHUR PORTER	-	Chairman
MME. SOLANGE PLOURDE-GAGNON-	-	Member
MR. ROBERT COSTELLO	-	Member
MR. GEORGE A. McCAGUE	-	Member

VOLUME 8



1 The following portion of the transcript
2 follows introduction of the Members by the Chairman
3 and introductory remarks by Dr. Porter and Mme.
4 Plourde-Gagnon.

5 THE CHAIRMAN: Perhaps now we will
6 move to the five -- I think there are five -- written
7 submissions. We have allowed about a quarter of an
8 hour for each. And hopefully this will consist of
9 about ten minutes of the presentation and then perhaps
10 five minutes for a brief discussion.

11 So may I ask Mr. Ted Smith, if Mr.
12 Smith is here, if he would like to come forward.

13 It is great to know you are a private
14 citizen, Mr. Smith. That is what we are after.

15 MR. TED SMITH: Dr. Porter and
16 Commissioners and members of the audience, can you
17 hear me? How about if I talk like that then?

18 My interest started with a notice on
19 the bulletin board in regard to the Royal Commission
20 and it just happens to be one of those things that
21 piques my interest because frankly if you do look
22 around at our city and our province you see a great --
23 well, a mess, quite frankly, a mess of wires, both
24 above the ground and notices on public vehicles which
25 say: Before you dig, call us. Because if you dig
you run the risk of breaking the wires underground.



1 So I think we do have a problem and
2 I just took Dr. Porter's word in his letter that said
3 we are invited to participate in the future, so I
4 just thought I would ask a few questions, and that is
5 what I have done in my brief.

6 My brief focusses on the RCEPP-OZ
7 document - Preliminary Statement on Issues and
8 Concerns. The reason I have done this is, first of
9 all I agree that one has to ask questions in order
10 to find solutions to problems. If you ask the right
11 question the answer is probably in it. You don't
12 need to find an answer if built into the question.

13 And secondly, I didn't want to get
14 too tied up in energy in general. It is just too
15 large a subject. So it provided a focus for me.

16 It is my belief that the reason we
17 are forced -- and I mean forced -- to take a hard
18 look at electric power planning in Ontario now is
19 that ever since Edison lit up the Cornwall-Cotton
20 Mills, we have failed to ask the right questions,
21 either about the generation of electricity or about
22 its transmission. Notice I didn't say about how it
23 should be generated or transmitted.

24 To state the question that way leads
25 one to answer on the basis that generation or trans-



1 mission is necessary. I don't believe that.

2 Of course it was realized very early
3 on that electricity could be transmitted over wire
4 and it was also shown -- and I like this term -- that
5 economies of scale could be obtained by constructing
6 large generating stations, and so we proceeded to
7 implement the obvious. But our obvious solution is
8 bogging down due to its tremendous demands and impact
9 on our physical, social and economic environments.

10 Well then, what to do? Well, let's
11 ask some new questions, hopefully questions that take
12 into account present conditions and future possibilities.

13 So I went right back to the very basic
14 thing: Must electric power be generated at all? It's
15 a silly question, but the more I think about it the
16 more I have two minds on this, whether it is silly or
17 not silly. But this is a fundamental and, of course,
18 unasked question.

19 It would appear that we must continue
20 to generate electricity, at least until we find a
21 new Edison to demonstrate that his approach to energy
22 production is as good, compared to our present one, as
23 electricity or the electric/light bulb is to the kerosene
24 lamp.

25 But perhaps, having put the question,



1 maybe Ontario Hydro and the Government of Ontario
2 should consider some very concrete and positive ways
3 to find out if we do in fact have to generate
4 electricity the way we are doing it now.

5 Specifically, I would recommend, let's
6 say, that they put some money into a small budget, or
7 a large budget, to support a search for an individual
8 or a group that could put them out of business. Now
9 they would have to go into some other business, but
10 perhaps we are in the situation in 1975 that, I think
11 upon reading history books, we were in in 1875. And
12 it just might be a possibility out there that we
13 should get ahold of.

14 All right, so much for that very
15 basic question.

16 Must electric power continue to be
17 generated in the same way that it is being generated
18 now? I don't think so. After all, we can't continue
19 as we are, since hydro and petroleum resources are
20 limited and the nuclear option is fraught with danger.

21 Now there are numerous alternate
22 possibilities for generation at the present time. I
23 had no idea of the extent of them until I began to
24 do a little reading in the library.

25 There are newly developed and more



1 efficient, to use the term, windmills. They are
2 usually called wind-driven generators at the present
3 time. Ocean based stations are coming along as
4 private projects, I understand, by one of the large
5 corporations in the United States working on this type
6 of technology. They utilize the temperature
7 differential between sea layers, and solar power, of
8 course. There is the possibility of using satellite
9 stations, and in a discussion with a friend of mine
10 at work today, she said they aren't too sure about
11 that one now. That gets into putting more energy
12 into our earth at the present time, and that raises
13 a whole series of questions. And the biomass process
14 is being used, quite frankly, with manure to generate
15 heat or energy or electricity and so on.

16 Now again it seems to me that Ontario
17 Hydro -- I am focussing on them -- or some agency of
18 the Ontario Government should pursue these technologies
19 and I really mean pursue them seriously, and
20 implement them if they represent an answer to the
21 question, and not if and only if they don't disturb
22 the growth of existing plant and equipment, which is
23 always a bureaucratic problem.

24 Now, must electric power generation
25 be tied to the growth or decline in the population,



1 industrial activity or what have you in Ontario?

2 No. I fail to see that it is
3 necessarily so that for each additional person in
4 Ontario you need an increment, an additional increment
5 in central generating power. In fact it could be the
6 reverse.

7 If centralized generation were only
8 available to do work that couldn't be done because
9 of lack of manpower, for example, or lack of some
10 local power generation capability, then if you
11 increase the available manpower or local generating
12 power, you perhaps could cause a decrease in the
13 demand of the central power station, let's say. But
14 we are not conditioned to think that way, nor are the
15 existing systems of use -- my first point -- and
16 payment, our exiting method of payment, is not geared
17 to forcing us to think this way.

18 I should get out and open up the can
19 with my muscle power as opposed to letting an electric
20 can opener do it. Okay? We are sold on electric
21 can openers.

22 Does the ready availability of electric
23 power facilitate industrial and economic growth?

24 Well, I think that the ready avail-
25 ability of electric power may actually dampen



1 industrial and economic growth over the long term
2 because it reduces the need to find alternate ways
3 of doing things, and these alternate ways may prove
4 more beneficial and appropriate. Again we get locked
5 into the thinking that this is the only way we have
6 to do these things.

7 Tying in with this -- and we have
8 by-laws, by the way, to perpetuate this situation --
9 typing in with this is the point that electric power
10 should be priced on a rising scale and not the reverse.

11 Of course, here we are in an economic
12 fight with our neighbours -- Michigan and so on --
13 and we could lose if we don't have cheap energy.
14 However, I fear that any victory based on underpriced
15 energy is a Pyrrhic one.

16 Should electric power generation be
17 decentralized? Absolutely. The technology is
18 available today, and I picked this out of Alvin
19 Hamilton's article in Science Forum just recently:

20 "A new solar heated home in Gananoque,
21 Ontario got through the winter on 100%
22 solar heat. The capital costs were
23 \$2,000.00 and no storage tank was
24 needed."

25 Now I don't know what Ontario Hydro's



1 involvement is in this. I understand there are some
2 government agencies involved in this particular
3 project. But Ontario Hydro should be, if they are
4 not, actively involved in the development of this
5 system, if it is suitable, and perhaps supply the
6 equipment on a purchase or lease basis to homeowners
7 and apartment building owners. This would be more
8 productive and correct, it seems to me, than advertising
9 electric heat and then when demand builds up due to
10 the advertising, requesting a rate increase so they
11 can build more plant to meet the demand.

12 Does electric power need to be
13 transmitted? Maybe, maybe not. At least not to the
14 degree it is currently being transmitted.

15 If a building which could generate
16 some or all of its own power requirements was set up
17 to do so, then perhaps we needn't deface the landscape,
18 fight the property owner -- the farmer, I had
19 originally there -- suffer wide area blackouts, and
20 so on.

21 We have the technology today to reduce
22 the load on the central generating stations and to
23 reduce the need for more transmission capability. Let
24 Ontario Hydro contact the Philips' Company for
25 details on how to collect and distribute 12,000 Kw



1 hours of energy per year to an average home from
2 solar panels on the roof.

3 They have an advertisement in a
4 magazine and they are quite pleased to show you how
5 to do this. Perhaps people should be putting modern,
6 efficient wind-driven generators on their roofs.
7 After all, in the 1950's everyone went out and bought
8 a TV aerial and put it up. Ugly, but the picture
9 was sure improved.

10 People will do things if they feel
11 it is of value to do it. Surely those same people
12 would opt for a wind-driven generator if it made
13 economic sense and would light the house.

14 Now Cornwall has numerous days when
15 the wind could probably provide all of the average
16 householders' electrical needs.

17 What is needed here if you are going
18 to have numerous sources of power -- now this is
19 what I am talking about, numerous sources of power,
20 both at the site, the user site, and of course at a
21 central site -- is a control centre in the house
22 which is capable of accepting electrical energy from
23 a number of different sources, both installed in the
24 house and maybe coming in over the line, and then
25 distributing the energy to that house at the correct



1 levels.

2 Must electrical power move in one
3 direction only? No.

4 If a home or other building is capable
5 of generating electricity, then during periods of
6 low use, nice days and during vacations, this house
7 control system should be able to reverse itself and
8 allow the power that this house can generate to flow
9 to the power grid for distribution to areas needing
10 more energy -- Domtar, for example -- and unable to
11 supply it from their own house system. They would
12 have one too.

13 Naturally any power sent from the
14 house into the grid would appear as a credit on the
15 homeowner's bill.

16 Should we be exporting power? There
17 is no way. We should sell excess power as we
18 currently define selling excess power. Excess power
19 is an excuse for overbuilding and a justification for
20 increasing demand by advertising and so on.

21 If you provide power to your neighbour,
22 then he need not correct the deficiencies in his
23 own system. If we can develop a new, decentralized
24 approach to power generation and transmission, we
25 will show him how to do it also. Energy is basic and



1 not proprietary.

2 Well, most of the questions in the
3 Issues and Concerns document of the Royal Commission
4 seem to suggest more of the current approach to
5 generation and transmission of electricity. To me
6 we should begin doing exactly the opposite. We
7 should decentralize the generation of electricity and
8 put some of the generation in the homeowner's site,
9 reduce the transmission lineage, develop and help
10 install small wind, solar and other types of
11 generators along with a control system at the user
12 site, and charge for useage from a central source on
13 a rising, not a sliding scale. This would encourage
14 conservation, not consumption.

15 It seems to me that this approach
16 in the long run would be cheapest in terms of money
17 and resources, and most beneficial in the social and
18 economic spheres. But to be implemented it will
19 require the Ontario Government and Hydro acceptance,
20 first of all through involvement and most of all
21 through leadership.

22 Thank you.

23 ---APPLAUSE.

24 THE CHAIRMAN: Thank you very much,
25 Mr. Smith. You have obviously put a lot of time into



1 the preparation of this, and I can assure you we will
2 examine it very carefully.

3 I was interested on a personal note --
4 you referred to the Philips Company. This is rather
5 interesting. As a matter of fact I had breakfast
6 with Mr. Fred Philips about two months ago at the
7 Inn-On-The-Park in Toronto. He is the Chairman of
8 the so-called Supervisory Board of the Philips'
9 Eindhoven Company, and of the two subjects of
10 discussion, one was this solar home which they built
11 in West Germany, actually, and the other was a new
12 engine that they are considering. I was very
13 interested to note that comment of yours. You are
14 the first person to raise it actually.

15 Before I ask my colleagues if they
16 have any comments, the question of export of electric
17 power is of course part of our terms of reference. At
18 the present time it is interesting to note that
19 Ontario does export -- not quite so much this year
20 as perhaps a year or two ago -- electrical energy to
21 the United States during the summer. But during the
22 winter Ontario imports from New York. And there is
23 more or less a balance. In other words you can get
24 cooperation of that type.

25 MR. SMITH: I am not disputing that.



1 I am just suggesting in principle I don't see why one
2 area of the country should be the resource generator
3 and the other the user. The point is the user is doing
4 silly things, you know, because he doesn't appreciate
5 where it is coming from and the effort involved in
6 generating it.

7 THE CHAIRMAN: Quite right. Anyhow,
8 as far as the sort of New York and Ontario relationship,
9 it seems to be a very happy sort of balance. They
10 want more in summer; we need more in winter; so
11 that may be reasonable.

12 Some of the points that you raise
13 relating to alternative sources of energy, particularly
14 solar energy, I can assure you the Commission is not
15 only aware of these, but will be pursuing studies to
16 assess the development and the level and the potential
17 of this. This I can assure you, Mr. Smith.

18 I think at this time I would like to
19 see if any of my colleagues -- Solange or Bob?

20 MR. COSTELLO: You have got some
21 interesting points here. I don't know that Hydro are
22 the people that should be developing solar energy
23 though. I feel that somebody else should give them
24 some competition, give them both barrels of the gun.
25 That would be the point I would raise.



1 MR. SMITH: I read the article on
2 the CANDU reactor. That was a combined effort
3 between General Electric, the Federal Government,
4 Ontario Hydro and I think another organization. So
5 if they can get together to build a hydro plant, a
6 quite sophisticated one in the world's market today,
7 I don't see why -- a nuclear plant -- why they can't
8 come up with a small generator system for the home.

9 MR. COSTELLO: My point is though that
10 competition might be better to achieve it.

11 MR. SMITH: That could be.

12 MR. COSTELLO: The point about rates
13 going up is the useage going up. The things you have
14 to consider -- the Domtar Mill here is producing
15 fine paper in competition with the same grade of
16 paper coming in duty free from the States. And
17 really they have to have the same, or more or less the
18 same type of costs in producing their papers. If
19 they are going to survive these are things you have
20 to consider.

21 MR. SMITH: I understand that is the
22 existing situation.

23 MR. COSTELLO: You have to be more or
24 less competitive in all areas.

25 MR. SMITH: Manpower, electrical



1 efficiency and so on. Where are we heading?

2 MR. COSTELLO: It is pretty hard to
3 put manpower to work on electricity. I wonder what
4 the farmers would think about this one, George?
5 You know you can't get anyone to work on the farm.

6 MR. SMITH: I understand. There are
7 points on the energy level where we are using
8 electricity in a profligate way.

9 MR. COSTELLO: There is no doubt
10 about that.

11 MR. SMITH: We should not be permitting
12 that kind of use. We should do it by a rate structure.

13 MR. COSTELLO: Thank you very much.

14 MR. McCAGUE: Mr. Smith, I have found
15 your presentation most interesting. We are doing a
16 great deal of thinking about this, and, Arthur, this
17 is the kind of dialogue and participation and concern
18 that I think is so very vital.

19 You were mentioning the electric can
20 opener, and the electric toothbrush is in the same
21 category. Our consumption has traditionally been
22 running, or showing an increase of roughly 7% per year.
23 So in the next ten years, on that basis, our
24 requirements would double.

25 Now what are we going to do to get



1 general concern from everyone with respect to this
2 situation?

3 MR. SMITH: I am convinced that there
4 is one major area that we should address ourselves to,
5 and that is the heating of the home. And absolutely
6 there is no way we should be heating a home by wire,
7 to use the electric company's advertising blurb.
8 We should not heat our homes by wire. That is the most
9 wasteful way I can think of.

10 At present I guess the technology of
11 the heat pump strikes me as the least wasteful in
12 terms of electrical power, a small amount of electric
13 current to drive the pump, and the rest is taken care
14 of by temperature or some other possibilities. But
15 certainly the electric company should not be promoting
16 the heating of your home by electric power. It is
17 just another -- well, it's too late.

18 We are doing that with fossil fuels,
19 and they want us to do it, you know, with the energy
20 that is potentially in the rivers. It is just not
21 an appropriate thing for us to be looking at and
22 selling people on.

23 MR. McCAGUE: In connection with
24 manpower, we all know that farm labour is almost
25 unavailable, and electric power is so vital in farming.



1 The requirement for electric power, or the need of it
2 is so essential, and yet, certainly on the basis of
3 our consumption and looking at what we are doing here
4 in Canada, in Ontario and Canada, compared with uses
5 in other areas we are extravagant.

6 But, Mr. Smith, you are right on this
7 point, aren't you? I find your paper very interesting
8 in sharing the kinds of concern that we share, and
9 we think should be concerning Ontario people generally.

10 Thank you very much.

11 THE CHAIRMAN: Thank you very much,
12 Mr. Smith. It is a very auspicious beginning to the
13 evening's discussion.

14 Is Mr. Lalonde here?

15 MR. ERNIE LALONDE: Good evening, Mr.
16 Chairman, Commissioners, Madame Coordinator, ladies
17 and gentlemen. My name is Erie Lalonde and I am
18 here to represent the Glengarry Anti-Pollution
19 Committee. I am better known as "Butch", however,
20 be that as it may, a rose by any other name.

21 One of my main concerns, and I am
22 sure that all of you agree, is the effect of these
23 planned projects on the environment. Without proper
24 environment, life would cease to exist on this planet.
25 The balance of nature is a delicate one, a point



1 which is taken far too lightly by the general public.

2 Many of us are more concerned with the
3 star players and winners of the football or hockey
4 games. We are blissfully ignorant of the immediate
5 and long-term effects on our lives and those of
6 generations to come, created by industrial progress
7 throughout our country.

8 Some of us in Cornwall and district
9 however, have been shocked by the realization that
10 industrial progress has been so great that little or
11 no consideration was given to our surrounding environ-
12 ment, thus adversely affecting the health and well-
13 being of our people.

14 The incidence of bronchial, asthmatic
15 and lung ailments in the district is very high and
16 has, in the past, been greatly aggravated and/or
17 initiated by air pollution from industry. I am,
18 however, happy to use the expression "in the past"
19 because it is most apparent at this time that industry
20 has taken effective action to partially eliminate the
21 discharge of pollutants into the air and waters of
22 the St. Lawrence River. Industry still has a long way
23 to go.

24 Again, in the recent past, the odours
25 of sulphur dioxide and other air pollutants were so



1 obnoxious and all-pervading that tourists and
2 travellers avoided the place like the plague. The
3 location of the city fitted the description of being
4 midway between two outhouses.

5 When the Saunders Dam was completed
6 in the cause of progress, the environment of the whole
7 district was altered. I hope you can hear me.

8 The Longue Saulte Rapids, an integral
9 part of the purification of the waters of the St.
10 Lawrence, was completely destroyed. No more would
11 the raging, angry, confined rushing waters be the
12 source of clean, healthful drinking and bathing
13 waters for Cornwall and district.

14 The great spawning grounds these
15 magnificent rapids afforded to the market and game
16 fish for centuries was no more. New spawning grounds
17 had to be found. The total available, however, does
18 not even come close to that afforded by the Longue
19 Saulte Rapids. The result -- the once numerous
20 sturgeon, a rare delicacy, the royal fish which
21 supplied the caviar for the tables of the rich in
22 New York City and elsewhere is fast becoming extinct.
23 The pickerel and bass which were the big game fish of
24 the district are heading in the same direction.
25 Commerce below the city, which in the past depended



1 largely on tourism and sportsmen, has suffered
2 considerably.

3 The water levels below the dam do not
4 fluctuate as they did prior to the dam. There is no
5 more spring flooding and build-up of icebergs by the
6 rushing waters of the rapids to be carried downstream
7 helter skelter, scraping and scouring the bottom of
8 the river on their way. The results of the deprivation
9 of this, one of nature's methods of cleansing the
10 waters below the rapids, is now most apparent.

11 Masses of hideous unnatural weed
12 growths, matting the surface of the waters, have taken
13 over control, presenting an impenetrable barricade
14 to solid waste flowing downstream. This hideous
15 growth is so widespread, from one shore to the other,
16 with the exception of the ship channel, that it
17 actually inhibits the harsh winds of autumn and the
18 summer months, from their cleansing and aerating
19 actions.

20 The depredations of industry in its
21 desire for greater and greater production is now most
22 apparent. Solid waste has settled at the heads of the
23 delta of islands and on the many shoals, along with
24 the build-up of dead weeds from year to year to such
25 an extent that it provides a fertile base for the



1 continued growth of these weed masses. Whilst emitting
2 valuable oxygen into the waters during periods of
3 growth, conversely, when dying, these same massive
4 weed jungles use up a considerable amount of oxygen
5 from the water. The marine life is thus being robbed
6 of the necessary oxygen for survival. As we all know,
7 these weeds die in the autumn prior to the freezing
8 of the river, after which time it follows the winds
9 are no longer able to aerate the water. The expression
10 "winter kill" therefore becomes appropriate in
11 describing the massive destruction of slow-moving
12 inhabitants of the area waters such as crayfish,
13 snails and other miniscule marine life, which,
14 previously a part of nature's sensitive balance, was
15 the main sustaining food of fish and waterfowl in the
16 district.

17 Thus, we see the dire effects of the
18 upset of the balance of nature in our area waters.
19 If governments and big industry, in the name of
20 progress, ignore the land environment, as it did the
21 waters, we land animals will certainly go the way of
22 the marine life in our waters.

23 In view of the above, we cannot be
24 too careful and demanding in this latest plan of
25 extension of electrification of our country. All



1 possible safeguards must be installed to ensure
2 against injury to our environment. The greatest
3 possible emphasis must be placed on this matter of
4 life and death of humanity.

5 There is very little question in my
6 mind but what, in the name of progress, this or a
7 similar extension of electrification should be carried
8 out. The question is, for whose benefit? It is our
9 publicly-owned utility, therefore the public should
10 benefit most from it. Will an increase in the volume
11 of power available mean cheaper electricity for the
12 householder? Will industry be given the lion's
13 share, as usual, at the expense of the people? Again,
14 will excess power be exported as in the past, at the
15 expense of the householder?

16 What is expected from this sudden
17 surge of electrification of our homeland? We, the
18 common people, without whom the wheels of industry
19 does not turn -- there are examples of that in our
20 City now -- whose labours built this nation to what
21 it is today, and without whose taxes the governments
22 would cease to function -- we want to know -- will we
23 foot the bill as in the past? If so, what can we
24 expect in return? Will the controllers of the utility
25 still insist on the people paying for the enjoyment of



1 scandalously low rates by industry whose owners are
2 mainly non-residents of our country?

3 It is high time the common people,
4 the true owners of this great enterprise, were given
5 some concrete benefit by the reduction of householders'
6 rates to compare more favourably with those paid by
7 industry.

8 As well, to be more competitive with
9 Cornwall Electric, which is able to purchase power
10 from a Quebec source and find it profitable to sell
11 this power to the householder in the district, at
12 a lower rate than Ontario Hydro.

13 We have the great Saunders Generating
14 Station on our front door step, yet we can't obtain
15 power from it as cheaply as from Cornwall Electric,
16 which has to pay for transmission for a distance of
17 some forth miles away.

18 What's more, Ontario Hydro is now
19 seeking a 25% increase in rates. They were previously
20 asking 38%; is that right?

21 FROM THE FLOOR: No.

22 MR. LALONDE: The consumer gets it in
23 the neck again. We, the investors in this great
24 enterprise are asked to increase our investments
25 instead of a dividend after all the 70 or more years
Hydro has been operative. The consumer gets it in the



1 neck again. There doesn't appear to be much of a
2 future for investors at this rate of going.

3 We are now being asked to comment on
4 much greater expansion of our enterprise. Are we in
5 favour of this expansion as planned? I, as previously
6 stated, am in favour, with a few ifs and buts appended
7 thereto.

8 Upon perusing a statement in the
9 Legislature by the Secretary for Resources Development,
10 a question is justified. In paragraph 9 of his
11 statement to the effect that Ontario Hydro is one
12 of the world's largest electrical power utilities,
13 with assets of 5.5 billion dollars in 1972, and
14 anticipates that in the next eight years these assets
15 should exceed 30 billion dollars. Either we've had
16 damned poor management all these years, or we are
17 being sold a bill of goods and I would hesitate to
18 say that it was "all wool and a yard wide".

19 When one considers the anticipated
20 great cost of the planned expansion, one wonders how
21 we are going to pay this bill and still make five
22 times more money in eight years than in the last seventy.
23 Not even a slick stock promoter would make such a rash
24 statement in a prospectus, I don't think.

25 The only apparent means of obtaining



1 this huge and sudden increase in assets is, of course,
2 higher rates to the householder. With great fanfare
3 and promise of much affluence, the needle is being
4 gently inserted -- to quote from Stephen Lewis: "We
5 are being skewered"-- this latter expression, not to
6 be confused with that more vulgar one, known and so
7 frequently used by those of you of the unwashed,
8 the riff-raff and the rabble.

9 Now comes the rub. Hydro is seeking
10 authority to increase its rates by 25%. Are we going
11 to be had for the next eight or more years for
12 similar annual increases?

13 Surely after so many years of operation
14 Hydro should be able to finance its own expansions
15 without going to the people for greater investment.
16 I am only a simple man, but that is what it appears
17 like to me.

18 It appears to me that a slogan I have
19 seen prominently displayed on the wall of a small
20 business enterprise would be most applicable here,
21 and I quote: "This is a non-profit organization. It
22 wasn't intended to be, but that's the way it turned
23 out."

24 Thank you.

25 THE CHAIRMAN: Thank you very much,



1 Mr. Lalonde. If I may say so, what you have presented
2 to us is much more than a submission to this Commission.
3 Indeed, I would say it is an essay of considerable
4 literary merit, and I say this with all sincerity.
5 I have rarely read literature which so came from the
6 bottom of the heart. That rings very true and I
7 think all of us in this room are grateful to you for
8 it.

9 MR. LALONDE: That is greatly appreci-
10 ated, sir, thank you very much.

11 MME. PLOURDE-GAGNON: (Question in
12 French).

13 MR. LALONDE: Unfortunately I don't
14 know my own language.

15 MME. PLOURDE-GAGNON: (Requests Mr.
16 Lalonde to put on earphones).

17 MR. LALONDE: You are coming through
18 loud and clear.

19 MME. PLOURDE-GAGNON: (Repeats question
20 in French).

21 MR. LALONDE: Yes, I believe we
22 would if the price weren't too great. I mean, why
23 must we always pay? Industry would benefit as well,
24 you see. The government has been throwing around
25 its money like a drunken sailor -- forgivable loans
of hundreds of thousand of dollars to industry. But



1 there is no forgivable loan to the working people.
2 And these forgivable loans are actually gifts. They
3 are never paid back.

4 MME. PLOURDE-GAGNON: (Asks question
5 in French).

6 MR. LALONDE: Well, I don't like the
7 word "compromise". Frankly greater survey work should
8 be done prior to the installation of industry. That
9 is, in the interest of the environment. This was
10 considerably lacking in the past.

11 MME. PLOURDE-GAGNON: Merci.

12 MR. LALONDE: Thank you.

13 MR. COSTELLO: I should point out, sir,
14 that now under the Environmental Assessment Act any
15 company, or even the government, considering a new
16 project of any size has to satisfy the Ontario
17 Government, and in some cases the Federal Government
18 also, that they are not polluting the environment.
19 Things have changed. It's not what it was for the
20 last ten years. There is still a lot to do, as you
21 have said, and you certainly have to satisfy some
22 very strict requirements that didn't exist many years
23 ago.

24 MR. LALONDE: The Saunders Dam, for
25 instance, there was no way of protecting the environment



1 created by the rapids.

2 MR. COSTELLO: There are such devices.
3 There are devices for putting oxygen into water. I
4 am not too familiar with them, but --

5 MR. LALONDE: It is such a huge, large
6 body of water, it would be very difficult.

7 MR. McCAGUE: Mr. Lalonde, how many
8 members are there in your organization, the Glengarry
9 Anti-Pollution Committee? What membership have you?

10 MR. LALONDE: About eight, eight or
11 ten.

12 MR. McCAGUE: Would you expect that
13 you would probably be presenting a formal brief to
14 the Commission -- this would probably be next June
15 or July, about that period -- are you thinking in
16 terms of giving us a formal brief?

17 MR. LALONDE: I wasn't, sir, not up
18 until now. But if you suggest as much, I would be
19 happy to.

20 MR. McCAGUE: Well, this is certainly
21 your privilege. You have raised many -- well, Arthur
22 Porter has expressed himself on what you have given
23 us to think of. This is very important, you understand.

24 On the other hand, if you would like
25 to come forward with a formal brief, and at that time



1 it would be subject to cross-examination, et cetera,
2 certainly you would have that opportunity. We want
3 to let you know that that is the case.

4 MR. LALONDE: It's appreciated, sir,
5 very much.

6 THE CHAIRMAN: Mr. Lalonde, in thanking
7 you once more, now that I scan through this, the
8 philosophical implications -- you are a real
9 philosopher, you know. You may not like to call
10 yourself that. You have hinted, for instance, here
11 and in your answer to a recent question, to this
12 whole problem of technology assessment, ensuring that
13 before any technology comes into effect, built and
14 developed, then it must be analyzed from the point
15 of view of its environmental implications, that if
16 there are harmful side effects, these, as much as
17 possible, should be anticipated. And this you did,
18 and I think this is a very, very wonderful brief,
19 one of the most exciting briefs that we have had in
20 our visits to eight cities in Ontario.

21 MR. LALONDE: That is very greatly
22 appreciated, sir. Thank you.

23 ---APPLAUSE.

24 THE CHAIRMAN: Is Mr. George Revell
25 here?



1 MR. GEORGE REVELL: Dr. Porter and
2 members of the Commission and fellow citizens of
3 the Cornwall area, I am going to present something
4 possibly a little bit different, more down to earth
5 for the average householder or property owner than
6 has been presented before.

7 I, in my brief, which is rather formal,
8 which is entitled Domestic Electric Power Consumption,
9 and I would like to read the second and third
10 paragraphs of my letter to you, Dr. Porter, which
11 reads as follows:

12 "The main field of the Commission's
13 terms of reference is completely
14 outside of my experience and interest.
15 I am a retired Chemical Engineer (and
16 I consider myself as a householder and
17 property owner). It is therefore with
18 some hesitancy that I am presenting
19 some thoughts under the topic of
20 "Domestic Electric Energy Utilization".
21 It is intended to point out that the
22 application of the general principles
23 is not carried out for the ordinary
24 householder by the journeyman
25 electrician nor is it understood by



1 the householder or the property owner.

2 My brief illustrates this problem.

3 With the increased demand for
4 single dwellings and the government's
5 commitment to have them available to
6 the public, it is essential for the
7 efficient and economical use of
8 electricity that the basic principles
9 be explained and be understood by the
10 "new" as well as the "old" householder
11 and property owner."

12 The object of this -- I have made it
13 formal -- is to bring to the attention of the Royal
14 Commission on Electric Power Planning that the
15 domestic consumer must be directed, and that he has
16 an expectation to be directed in the efficient use of
17 electric energy, and also to illustrate by one
18 practical example how a 40% saving in domestic power
19 consumption was achieved by chance incidence with
20 considerable subsequent financial economy.

21 I want to depart from the exact brief
22 for a moment to illustrate an experience I had in
23 1955, which is apropos to the presentation brief.

24 In 1955 the World Jamboree of the
25 Boy Scouts of the World was held in Niagara-on-the-Lake



1 in the summertime.

2 We of course went there as part of
3 the staff and had nothing to do with the origination
4 of where the camp was or how it was situated or
5 anything.

6 We arrived there, and the first thing
7 that was noticeable was that there was a central
8 place for water distribution. There were about a
9 dozen taps and there were 400 to 500 boys, young
10 men, in this particular camp. They had to have
11 showers, of course, and they were good showers, but
12 the water that was used in their individual camp sites
13 was from about 12 taps.

14 And the first thing that happened on
15 the first day was, it was obvious that the authorities
16 in charge of the direction of the camp had not
17 considered the fact that we had visitors from Africa
18 and other further away troops. The result was that
19 in Canadian scouting the individual camp site goes
20 against the water, brings it to the camp site, and
21 they do their ablutions, or whatever it is, for the
22 dishes and cleanup afterwards. They forgot -- the
23 authorities forgot that those individuals from
24 foreign countries did the reverse. They went to
25 the water and did the work there.



1 The result was that inside of a day
2 those 12 taps were practically running all the time.
3 The water was good and there were indescribable
4 amounts of it, and therefore it was just wasted.
5 The place became a chaos and there was mud that you
6 had to get ankle deep in to get into the place.

7 Now this particular thing is
8 analogous to the fact that we have electricity in
9 unlimited quantities at our household beck and call.
10 We flip a switch for anything: for heat, for light,
11 for motion, the kid's toys, radio, television and
12 so on. Sometime soon we have to understand that
13 this flip on and flip off of a switch has got to
14 stop.

15 Now to return to the brief, which is
16 brief:

17 The following outline of circumstances
18 that led to the 40% reduction in the consumption of
19 electrical energy to the householder was the result
20 of chance -- and I say "chance" -- occurrences in
21 1972, and the suggestion of a qualified electrical
22 journeyman to change the circuitry of the hot water
23 heater in accordance with the manufacturer's wiring
24 installation instructions. This is how it happened.
25 Reference should be made to Appendix 1 which is a



1 Xerox copy of the wiring installation instructions
2 for the HOMART - Glass Lined Automatic Water Heater
3 sold by Simpson-Sears Limited, and the model and so on
4 (1000 watt heaters on the top and 1000 watt heaters
5 on the bottom).

6 In 1952 the house (138 Second Street
7 East, Cornwall) was purchased and shortly afterwards
8 a standard glass lined insulated electric hot water
9 tank was installed. A qualified local electrical
10 shop was hired for the electrical installation. At
11 their recommendation and with the approval of the
12 householder the two heating coils were connected as
13 follows:

14 a. The top coil was put direct to the main so as to
15 take advantage of the "FlatRate" cost. At that time
16 the Flat Rate was controlled by a "Radio or Electrical"
17 pulse unit in the main supply. The energy consumption
18 was paid or recorded on the bimonthly bill as a
19 separate charge.

20 b. The bottom coil was connected through the fuse
21 box and the energy consumption was included in the
22 overall kilowatt hours used in the house and charged
23 according to the existing electrical rates.

24 It should be noted that the installation
25 was entirely water supply. However in 1963 the glass



1 lining of the tank evidently corroded through and a
2 leak in the tank occurred just beyond the 10 year
3 guarantee. After some argument with Simpson-Sears
4 Limited, a similar tank was obtained at a reduced
5 price. It was installed in October 1963 with the
6 identical hook-up as the original. The description
7 of the tank now in use was given in the previous
8 introductory.

9 The off-on operation of the radio
10 controller could be heard and generally occurred
11 about one hour before noon and about two hours later.
12 The obvious need for this control was to lower the
13 peak load at times desired by the suppliers.

14 The next change that occurred was when
15 the suppliers of the electric power came to the
16 house and removed the radio controller. No reason
17 was given for the change and not required by me as
18 a householder as the top coil for the heater remained
19 on "Flat Rate".

20 In 1972 (June) several instances of
21 shortage of hot water were encountered. After care-
22 ful consideration it was concluded that the cause was
23 a. One of the coils in the heater had burned out.
24 b. There was a break in the electrical circuits
25 inside the tank covering.



1 c. There had been excess leakage of hot water
2 through the taps in the laundry and the kitchen.

3 The coils were disconnected and tested.
4 It was concluded that the coils were not burned out.
5 In order to more fully examine the circuitry of the
6 tank a qualified electrician was hired and his first-
7 hand conclusion was that one coil had been burned out.
8 However, at my instance of the householder, the
9 electrician on second thought decided that the coils
10 were good, and at the same time agreed that the
11 circuits inside the tank cover were in order. It was
12 then agreed that the cause for lack of hot water was
13 leaking hot water taps. These were corrected.

14 At this point the electrician asked how
15 many people were in the house, and when informed that
16 there were only two he suggested that the electrical
17 installation be changed to that of "Flip-Flop" opera-
18 tion which is shown on page 3 of the wiring installation
19 instructions (See Appendix 1). There is no problem
20 in that, if it is understood by anybody, but I am
21 sure, speaking to other people, they do not know
22 what "Flip-Flop" operation is.

23 Under this wiring there would be only
24 one line to the tank instead of two and this could
25 still be under flat rate. This arrangement was put



1 into operation and has worked satisfactorily ever
2 since, with considerable saving of electrical energy.

3 In the following months of 1952 and 1953,
4 the lower number of kilowatts charged on the
5 bimonthly bill was noticed -- there is an error in
6 that; it should be '72 and '73 -- and a complete
7 record of the amounts and charges were kept. It was
8 soon evident that there was a major saving in the
9 operation of the hot water heating. It was reported
10 to the electricity supplier so that there would be
11 no thought that any tampering of the electrical
12 connections had occurred.

13 Subsequently the water heater switch
14 failed and had to be renewed, but this was after
15 over 30 years of operation. This was completed by a
16 qualified electrician.

17 On the following page you have got
18 to realize that this is the record of electrical
19 consumption and cost over a seven-year period, a
20 bimonthly record of individual bills and the amount
21 charged. And as this occurred in 1972 in June, the
22 year's operation starts in July and goes to May.
23 Therefore in the first column you will see the
24 kilowatt hours and the bimonthly bill and the cost
25 for 1968/69, the second column '69/'70, the third



1 '70/'71, and the fourth 1971/'72. And then on the
2 next line is after the "Flip-Flop" operation was
3 put in. We have '72/'73, '73/'74, and '74/'75.
4 And on the bottom is the summary.

5 These figures mean nothing to you
6 except the final figures, so I won't bother you
7 with them. But the total, if you add up the total
8 amount of kilowatt hours used in the four years
9 before and divide by the number of years you will
10 get a yearly consumption rate before, and the three
11 years afterwards you divide by three and you get it.

12 And lo and behold the savings is
13 the difference between the 5,652 kilowatt hours
14 per year, or a percentage savings -- and this is a
15 practical figure, a real practical figure -- 40%.

16 Now you say, well, what does this
17 cost? What is the savings in money? If you take
18 this extra to the presentation, the second Appendix,
19 it shows that on the present cost, the savings, the
20 financial savings, is 26½%.

21 Now what is my recommendation to the
22 Commission? It is on the second or third page, which
23 is as follows:

24 That the Royal Commission on Electric
25 Power Planning include in their final report to the



1 Government of Ontario that the education of the
2 ultimate consumer, the householder and/or the
3 property owner, is necessary for the goal of
4 improved efficient energy conservation.

5 ---APPLAUSE.

6 THE CHAIRMAN: Thank you very much,
7 Mr. Revell. You have obviously given us an object
8 lesson and perhaps this would be expected of a
9 chemical engineer.

10 All this, of course, is a contribution
11 to the conservation ethic, which people are seeking
12 -- the optimum utilization of electrical energy.
13 And this exercise you carried out, which will be
14 extremely useful to us; I wish many more people
15 would carry out similar ones. I am doing not quite
16 as extensive a one myself in connection with my own
17 home as far as thermostat settings.

18 This is a very interesting exercise.
19 All I can say -- where did you graduate from, sir?

20 MR. REVELL: I graduated from two
21 universities, Queen's University and the other from
22 M.I.T.

23 THE CHAIRMAN: I am the Class of '39
24 at M.I.T.

25 MR. REVELL: I preceded you by four



1 years.

2 THE CHAIRMAN: Very fascinating. It
3 is great to hear a Queen's man coming out with this,
4 which is a real contribution. You have got ten
5 pages of data and you have shown what can be done.
6 We are very grateful.

7 Solange?

8 MME. PLOURDE-GAGNON: (Question in
9 French).

10 MR. REVELL: Yes. You have got to
11 appreciate that this presentation -- there has
12 been nothing left out. In other words it has been
13 as straightforward as I could make it with facts
14 that came to me as an idea from the fact that they
15 were asking for ideas on conservation and you have
16 got to appreciate that originally there were three
17 or four of us in the household, but since about 1965
18 or even before that there are only two of us. And
19 the result is, I feel that this is a major contri-
20 bution to someone who is retired and on a fixed
21 income as a real monthly saving.

22 MR. COSTELLO: Mr. Revell, did you
23 ever find out why the radio control was taken off?

24 MR. REVELL: I never asked. It belonged
25 to the company and therefore I just accepted it, and



1 it obviously remained on a flat rate.

2 MR. COSTELLO: In Kapuskasing they
3 ring off their water heaters during peak periods.
4 They also ring off their radiators, and in Sault
5 Ste. Marie they ring them off, but this isn't normal
6 throughout Ontario, I understand.

7 I have been told, or we have been
8 told by some people that is an expensive thing to
9 put in and it may actually be cheaper to build
10 part of a new generating station.

11 MR. REVELL: It might be that some
12 of the fellows who are here can give you an answer.
13 I certainly didn't ask for it.

14 MR. COSTELLO: Thanks very much.

15 THE CHAIRMAN: Thank you very much,
16 Mr. Revell. We appreciate reading your contribution.

17 Is Mr. David Bowie here?

18 MR. DAVID BOWIE: Mr. Chairman and
19 Commissioners, I would like to preface my remarks
20 by saying although I am an employee of Ontario Hydro
21 I am here as a citizen, I am not representing Ontario
22 Hydro in any way.

23 I think that although I work for the
24 Hydro, I don't have the competence to comment on
25 some of the more technical aspects of your Commission,



1 so I am going to confine myself to the philosophical
2 aspects.

3 One of the papers presented at the
4 United Nations Conference on the Environment in
5 Stockholm, Sweden in 1972 said, in part: "The
6 obvious causes of our current environmental symptoms
7 should not conceal the nature of the basic illness.
8 No single analysis of the problem of the human
9 environment has exposed the root of the difficulties
10 facing the world today; that the social structures
11 of the world and the systems of values on which they
12 were built cannot meet the new human needs.

13 "Man has developed a new relationship
14 to both his natural environment and his fellow. The
15 radical transformation of his physical environment by
16 science and technology during the last century has
17 given him the power to control and modify natural
18 forces. It has eliminated physical barriers to
19 world unity; but it has created at the same time
20 complex and divisive social relationships. We are
21 consequently allowed the alternatives of either
22 regressing to a primitive level of technology, or
23 fulfilling the potential of a united world.

24 "To achieve the latter -- a world
25 civilization -- we must recreate our societies and



1 their values.

2 "Aware of the interdependence of the
3 major elements of the world ecosystem -- an interdepend-
4 ence evident also at the social, economic and
5 political levels -- we are beginning to see that
6 integration of life on the planet requires unified
7 action on a scale we have not yet achieved.

8 Partial solutions seem only to prolong
9 the difficulties; yet we hesitate to adopt a new
10 and workable system of values for the world. For
11 until there is unity at the most fundamental level --
12 that of human values -- social problems, simple or
13 complex, will remain unresolved."

14 Obviously this Commission is not
15 empowered by its terms of reference to seek solutions
16 at a world level. However, the task it does face,
17 although confined to Ontario, is essentially the same.

18 We in Ontario are concerned with
19 uniting political parties, industrial powers and
20 the consumer into a cooperative society the component
21 parts of which will work together to bring into
22 realization our dreams of the "good life" without
23 endangering the potential for future generations to
24 also share in and develop our civilization.

25 A major contributing factor in the



1 development of a modern technical society is the
2 availability of abundant sources of low cost reliable
3 energy. However, a technical society will not
4 develop into an enduring civilization unless it is
5 planned, and controlled by moral considerations.

6 In the present world any society which
7 does not take into account the effect of its actions
8 on its neighbouring provinces or countries, on its
9 environment or on future generations, is in essence
10 immoral.

11 Bearing these statements in mind I will
12 address the remainder of this brief to the consider-
13 ation of two questions raised by the Commission in its
14 preliminary statement on Issues and Concerns.

15 First, in general what are the
16 implications of long range electric planning for
17 agriculture in Ontario in terms of both total
18 available acreage and food production?

19 In the past Ontario Hydro has flooded
20 large areas of arable and fertile land, particularly
21 in the Niagara Peninsula and in Eastern Ontario.
22 However, since there is no major watershed left
23 undeveloped south of North Bay, Hydro's future direct
24 impact on land in agricultural areas will be confined
25 to the development of its physical power plants; i.e.,



1 its generating stations, transmission and distribution
2 systems.

3 This does not mean that our agricultural
4 land is still not in danger. It is evident to
5 anyone who observes the proliferation of industrial
6 parks and the ensuing urban sprawl in southern and
7 eastern Ontario that large agricultural acreages are
8 still being taken out of production. Indeed, Phil
9 Durand, Chairman of the Ontario Bean Producers'
10 Marketing Board estimates that between 1966 and 1971
11 such land went out of production at the rate of 26
12 acres per hour. That is in Ontario only.

13 How long can we continue to allow our
14 industrial and power developments to take place in our
15 prime agricultural areas? How much longer can we
16 continue to abuse this most essential resource? A
17 technical society cannot for long afford to ignore its
18 capacity to feed itself. Ontario Hydro and the Ontario
19 Government must take immediate steps to reverse this
20 trend. Ontario Hydro could perhaps institute a system
21 of industrial power rates which would penalize
22 industrial development in the south and encourage such
23 development in the north in areas where the land is not
24 primarily suited for agriculture. This could be the
25 first step in a truly planned economy where the



1 different resources in Ontario are exploited in an
2 intelligent manner for the greatest good for this and
3 future generations.

4 I fully realize that this is a highly
5 complex and politically dangerous issue and do not
6 envisage an easy or simplistic solution. Such a
7 planned economy would necessitate the cooperation of
8 all energy producers, government at all levels,
9 union leadership and industrial concerns.

10 Electrical power directly affects
11 agriculture in another way. New methods are
12 constantly being sought to increase farm efficiency
13 through electrification. Indeed, Ontario Hydro through
14 its Farm Sales Program has been a leader in this
15 type of research; such efforts must continue and
16 be intensified. But the Hydro Corporation must
17 always bear in mind that as farmers become more and
18 more dependent on electricity the cost and reliability
19 of this service becomes increasingly important to the
20 farm economy. It may become necessary for them to
21 review their rural Hydro rates and to realize that for
22 the greater benefit of society as a whole, such rates
23 (which are traditionally higher than urban rates) may
24 have to be reduced.

25 2) What conservation measures might be



1 in order? Should such measures be voluntary or
2 legislated?

3 Anyone who has flown over the cities of
4 Canada in the hours of darkness must be aghast at the
5 amount of power consumer just to lighten the night.
6 Some of this is necessary. Our streets must be
7 illuminated for the convenience and increasingly the
8 safety of our cities' inhabitants. But is it necessary
9 for every shopping mall, every towering office
10 building, to be beacons of light? Christmas is fast
11 approaching and every year more Christmas decorations
12 and lights go up and on earlier. Every year new
13 convenience and labour-saving appliances are developed
14 such as self-cleaning ovens and frost-free
15 refrigerators, both of which use more energy than
16 older models. Electric carving knives and can
17 openers abound. My question is -- is our devotion to
18 convenience and comfort so complete that we will
19 insist upon being comfortable regardless of
20 consequences? It is true that the amount of power
21 used by any of these appliances is relatively miniscule
22 when compared to the overall power demand in Ontario.
23 However, if one person gives me one dollar I am not
24 much better off than before. If one million people
25 give me one dollar I am suddenly much wealthier. If



1 every citizen of Ontario took it as a sacred trust to
2 conserve whatever energy he could it would be an
3 immediate release of pressure on Ontario Hydro so that
4 they could take time to reassess their priorities and
5 growth patterns. The manufacturers of electrical
6 appliances should press forward their advances in
7 making more efficient appliances and should seriously
8 consider whether the manufacture of essentially
9 luxury devices should be suspended or cut back.

10 However, if all consumers, industrial
11 and domestic, continue to waste energy at the present
12 rate and if an educational program coupled with
13 voluntary restraints did not work, then the Ontario
14 Government has not only the right but the responsibility
15 to legislate whatever restrictions it would deem
16 necessary.

17 Finally, public opinion is a powerful
18 force in any society but public opinion can either be
19 ill-informed or well-informed. We, the masses, must
20 make it our duty to become well-informed in all areas
21 of public concern. We must weigh our present comforts
22 against the consideration of the future. We must
23 recognize that the evolution of human society on this
24 planet necessitates some disruption and rearrangement
25 of nature. We must cease being seduced by the glitter



1 and tinsel of a materially comfortable age and must
2 start to make decisions based more on the morality of
3 our actions rather than the gratification of our
4 desires.

5 A Persian author wrote an open letter to
6 the Persian Government in 1875 in which he stated:

7 "It is obvious that not until the
8 people are educated, not until public opinion is
9 rightly focussed, not until government officials,
10 even minor ones, are free from the least remnant of
11 corruption, can the country be properly administered...
12 Furthermore, any agency whatever, though it be the
13 instrument of mankind's greatest good, is capable
14 of misuse. Its proper use or abuse depends on the
15 varying degrees of enlightenment, capacity, faith,
16 honesty, devotion and highmindedness of the leaders
17 of public opinion."

18 Unfortunately in Ontario, and indeed
19 in Canada, there has come into being a widespread
20 suspicion of government and big business, a suspicion
21 which breeds an attitude of non-cooperation.

22 All segments of society -- labour,
23 management and government -- must reassess their
24 traditional stances and must begin to cooperate and
25 trust.



1 We must show each other that our loyalty
2 to the cause of mankind is greater than our loyalty
3 to class, party or economic advantage. Then and only
4 then will we be able to build together a society which
5 will be a priceless heritage for our children.

6 Thank you.

7 ---APPLAUSE.

8 THE CHAIRMAN: Thank you very much,
9 Mr. Bowie.

10 Here is another brief, of course, of
11 outstanding literary merit, quite independent of
12 its content. I am sure that the plea ought to
13 hopefully be implemented. I think this is, this
14 sort of concept, is what many people are thinking,
15 but perhaps not all of us are capable of putting
16 it into such an articulate form as you have done.

17 Thank you very much.

18 You didn't relate, I noticed, the
19 Kurt Waldheim, U.N. Secretary General, comment, so
20 I am going to read it for you.

21 "May the world of tomorrow be an
22 enjoyable place to live for all people of the planet.
23 These aspirations are not unrealistic. It is up to
24 you, it is up to us, to pave the way for a new and
25 better world."



1 George, do you have any questions?

2 MR. McCAGUE: Well, Mr. Bowie, it
3 will take a long time to fully digest it before we
4 discuss it, but I must say that we are receiving
5 some most interesting briefs this evening.

6 You made reference to Phil Durand and
7 the 26 acres that are disappearing for agriculture
8 every hour. We have had some discussion on that
9 and it has come to us in different forms. We asked
10 one person who made a presentation how much of that
11 26 acres was land that was taken out of agriculture
12 because it was not productive, and put into parkland
13 or conservation. We haven't figures on this, but
14 we intend to get them. And we are going to have
15 a submission later on this evening on agriculture,
16 and this will be interesting, I'm sure.

17 You know, in southern Ontario -- that
18 is south of Lake Nipissing, except that it doesn't
19 take in Parry Sound -- we have something like
20 24 million acres, and of that 4.9 million acres, or
21 something like that, 4.7 million acres, are Class 2,
22 and this is the most productive class. The production
23 of this land of course is governed to some extent
24 by the number of heat units that are available in
25 any given area. But certainly we are at the place



1 where this good land must be conserved, and you might
2 be interested, Mr. Bowie, in a programme that is
3 outlined in the kit with respect to funding of
4 interest groups or individuals.

5 This is a directive that the Commission
6 has given -- it is the first time it has been given
7 in Ontario -- whereby we will provide certain
8 financing for research or presentation or preparation
9 of briefs. That is subject to guidelines and
10 criteria -- that is the funding -- and we have found
11 that a number of organizations are joining hands in
12 this -- farm groups, for example, and other interest
13 groups with like concerns.

14 Maybe this is something -- certainly
15 you have raised some very vital points here -- that
16 you might wish to study on your own or in company
17 with other people. But there are certainly many
18 things in this that are at the bottom of our deepest
19 concerns.

20 You mention on page 5 what conservation
21 measures might be in order. Should such measures
22 be voluntary or legislated? Now this is indeed a
23 good question, and one that we think we will get
24 some, or a good deal of viewpoints on, and opinions
25 from meetings such as this or by way of formal briefs



1 at the time of the formal hearings.

2 Arthur, there are many other comments
3 I might make on this, but I do want to express
4 appreciation.

5 THE CHAIRMAN: Yes.

6 Mr. Costello?

7 MR. COSTELLO: Just one point, Mr.
8 Bowie. It interested me, about raising the rates.
9 Recently this came up in a different fashion. You
10 weren't there, of course, but it was suggested we
11 might limit the availability of power in Class 1 and
12 Class 2 land areas so that industry couldn't really
13 get in there, or anything where people use large
14 amounts of power.

15 MR. BOWIE: We lived for eight years
16 in Kapuskasing, and you know what that land is like
17 out there. It is muskeg and they say it is too
18 thin to plow and too thick to drink, but it is
19 ideal for paving over.

20 THE CHAIRMAN: Thank you again, Mr.
21 Bowie.

22 Just one final point: we are very
23 conscious of the educational questions you have
24 raised and the question raised many years ago by this
25 Persian author. We regard this is the most important



1 issue of all, and I think you have stressed this here.
2 And of course the whole object of these preliminary
3 meetings is essentially education, largely of course
4 the education of we Board members. We are grateful
5 for your contribution.

6 At this time, ladies and gentlemen,
7 I am not sure whether coffee is available, but we
8 still have to hear from Mr. O'Neil, and then we want
9 to throw the whole meeting open for discussion.

10 MR. RAYMOND ROCK: I have no prepared
11 brief. I am just jotting down some things I want
12 to say to you.

13 THE CHAIRMAN: I don't know whether
14 the coffee is ready yet or not. It is ready?

15 If you don't mind, I think we would
16 like to hear from Mr. O'Neil and then we have got
17 the formal written presentations, and then afterwards
18 everybody else can have a go, and we can treat it
19 across the coffee break as an informal interaction
20 between us and you, and you and you, and so on.

21 MR. JOE O'NEIL: This presentation,
22 Mr. Chairman, is from District #1 of the National
23 Farmers' Union, and it is a preliminary presentation,
24 and we hope to make a formal presentation at a later
25 date. This is the approach that we have taken.



1 Also in our organization the leaders
2 only say what the members tell them, so we have to
3 put it out quickly when we are invited to make a
4 presentation and get feed-back. As a result the
5 brief is rather short, because the time was short
6 to get that done.

7 The National Farmers' Union, District 1,
8 of the Region of Ontario is pleased to give a
9 presentation to the preliminary hearings held by the
10 Royal Commission on Electric Power Planning.

11 We will attempt to bring your attention
12 to areas of concern to our members.

13 One of the major immediate concerns is
14 that of expropriation. All future projects should be
15 thoroughly discussed at public hearings with all
16 parties who could possibly be directly affected being
17 given notice by registered mail of the plan plus the
18 time and place of the public meeting before any
19 expropriation action is taken.

20 Instead of running high voltage trans-
21 mission lines as the crow flies to their destination,
22 there should be an investigation into the possibility
23 of using existing corridors such as highways, railway
24 line or even farmers' line fences. Practising this
25 method of transmission would save a great deal of



1 land which could be used for food production and it
2 would prevent undue distress to farmers. There should
3 also be research into the possibility of transporting
4 high voltage power underground.

5 We, as farmers, feel that all urban
6 development should be directed towards land which
7 cannot be used for farming. In this age of concern
8 towards overpopulation and starvation, we should
9 consider the great present and future need for all
10 workable land.

11 We would like to suggest that Ontario
12 Hydro or any other Crown Corporation should not
13 show a profit. Their income and their expenses
14 should be equal. The management salaries should
15 only be increased on the O.K. of Parliament. Under
16 these circumstances the research and expansion should
17 be the responsibility of the government.

18 More resources should be allocated
19 to the research into solar energy.

20 Energy planning should be done on a
21 nationwide basis not province by province. This
22 would prevent provinces from working at cross
23 purposes to get energy to their people and possibly
24 make it cheaper to the public as consumers and tax
25 payers.

---APPLAUSE.



1 THE CHAIRMAN: Thank you very much,
2 Mr. O'Neil. I suppose the member of the Commission
3 who would seek clarification of traditional inform-
4 ation is my friend George McCague. So there you
5 are, George.

6 MR. McCAGUE: Well, Mr. O'Neil, at a
7 meeting that we had some months ago there were two
8 representatives of the Farmers' Union in attendance.
9 That was a meeting of interest groups where we
10 discussed various matters, one of them was the matter
11 of funding.

12 You, of course, have raised in a very
13 concise way many of the valid points that are
14 concerning agriculture and the farmer. And we are
15 delighted to know that you will be presenting a formal
16 brief at the formal hearings.

17 Do you have any comment in connection
18 with the funding? Do you see a prospect of various
19 farm groups -- and there are many of them; commodity
20 groups, your organization, Christian Farmers, the
21 Federation of Agriculture -- of joining forces in
22 connection with particular issues on which you think
23 research should be conducted?

24 MR. O'NEIL: Yes, I think there is a
25 great possibility for that. Our position is we will



1 work with any farmer who is willing to work with us.
2 So I don't see why we couldn't work together on some
3 of these things.

4 MR. McCAGUE: In the last paper there
5 was the suggestion of this matter of saving of our
6 best productive land might some day be legislated.
7 Do you have any comment about that?

8 MR. O'NEIL: I think that is overdue.
9 Not only in the area of hydro energy but in a lot
10 of other areas.

11 In my own particular neighbourhood I
12 would say that roughly one-third of the land, and
13 it is good farm land, is owned by people from the
14 city who for one reason or another are not farmers.
15 And it is sitting idle. I could get lots of land
16 for very cheap rent, but I can't handle any more, and
17 a lot of the other farmers are in the same situation.
18 But the young farmers cannot afford to compete to
19 buy this land with competition from doctors and
20 lawyers, and this type of thing.

21 Mainly the situation is farm prices.
22 It does not warrant investing that much money when
23 you can invest in a lunch box and work in town.

24 MR. McCAGUE: We have heard a good
25 deal made about conservation, and I think we are



1 going to hear more about it. And, Mr. Chairman, I
2 think that we, as citizens of Ontario, must really
3 do something about it.

4 The farmer isn't a large user of
5 energy compared to the total, and this figure may
6 be known to many of you, that the actual electric
7 power that goes through the meter on the farm is
8 about 2½% of the total. And I suppose, Mr. O'Neil,
9 on the farm many of the meters shut off automatically.
10 Some are under pressure, the milking machine of
11 course is shut off when you are through milking the
12 cows, and the silo loader and so on.

13 Considering the huge amount of work
14 done on the farm, Arthur, and knowing that only
15 2% of it is used in agriculture, it would seem that
16 the farmer is likely doing maybe a better than
17 average job of conserving. But nevertheless I think
18 conservation, Mr. O'Neil, in every group is very
19 essential.

20 Take one short step off the farm, say
21 into the production of fertilizer, and the processor
22 of food, of course the consumption there is tremendous,
23 and this is more or less a total food chain.

24 In your last paragraph I would appreciate
25 it, Arthur, if you would bide my comment on that with



1 respect to the nationwide basis in connection with
2 energy planning.

3 THE CHAIRMAN: This question, of
4 course, as you can probably realize, is beyond our
5 terms of reference, because it of course has
6 provincial boundaries. On the other hand one can
7 certainly say that if there is much input to the
8 fact that there should be an energy planning basis
9 for nationwide requirements, profiting each individual
10 province, taking its requirements into account, and
11 that being that. This, I suppose, is related to the
12 development of a national energy policy.

13 I think that is the basis you are
14 getting at here. It has been raised in Toronto on
15 two occasions: in the Speech From The Throne about
16 three weeks ago and the Premier of this Province
17 mentioned it as one of his ten priority items, the
18 question of interprovincial arrangements in connection
19 with electrical power supplies.

20 So we are glad this has been raised
21 and it is -- although it is beyond our terms of
22 reference -- no doubt the Commission would be
23 prepared to comment on it if enough public interest
24 is expressed.

25 MR. O'NEIL: We believe in Canadians



1 first, then Ontarians. But the country is Canada,
2 not Ontario.

3 Also I would like to mention -- Mr.
4 McCague mentioned about the use of energy on the
5 farm. We would like to do an in depth study on the
6 changeover from the old methods of handling milk
7 and feed and so on to the electrically operated
8 operations and suggest how much difference this is
9 going to make and how much more demand in the future,
10 because approximately 25% of the dairy farms in this
11 area are still on can shipping and not bulk coolers
12 and so on. And we would like to get into that area.

13 THE CHAIRMAN: We look forward very
14 much to receiving your brief.

15 Thank you very much, Mr. O'Neil.

16 At this point, ladies and gentlemen,
17 we will break for coffee and hopefully return in as
18 close to ten minutes as possible. I am quite sure
19 many of you would like to put your submissions in.

20 ---COFFEE BREAK.

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Government
Publications

THE ROYAL COMMISSION

ON

ELECTRIC POWER PLANNING

*Preliminary Meetings of the Royal
Commission on Electric Power Planning*

DATE: Nov. 26, 1975

TIME: 2pm

LOCATION: Owen Sound

VOLUME NO: 9

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ROYAL COMMISSION

ON

ELECTRIC POWER PLANNING

Meeting held in the Downtowner
Motor Hotel, 845 Second Avenue,
Owen Sound, Ontario, on the
26th day of November, 1975, at
2:00 p.m.

MEMBERS OF THE COMMISSION:

DR. ARTHUR PORTER	---	CHAIRMAN*
DR. WILLIAM M. STEVENSON	---	CHAIRMAN*
ROBERT E.E. COSTELLO, ESQ.	---	MEMBER
GEORGE McCAGUE, ESQ.	---	MEMBER

(*Dr. Porter chaired the Hearing from 2 p.m. until
the coffee break, whereupon Dr. Stevenson assumed
the chair for the duration. Dr. Porter was not
in attendance after the coffee break.)

VOLUME 9



Vol. 9
DP/jc

Nov. 26
1.1

1 --- Upon commencing at 2 p.m.

2 THE CHAIRMAN: Opening remarks.

3 We are pleased to welcome you as
4 the first deponent, Mr. Gurnham, this afternoon.

5 MR. J.A. GURNHAM: Thank you, Mr.
6 Chairman. Members of the Commission, ladies and
7 gentlemen. Thank you for permitting me to present
8 this brief to this Commission. I am the manager of
9 the Owen Sound Public Utilities Commission and while
10 the points I will be presenting in this brief are
11 strictly personal viewpoints I believe they also, in
12 most part, reflect the views of my fellow workers
13 and my Commission.

14 Briefly stated I believe the
15 directives of the Porter Commission are to consider
16 the demands for electrical energy that will be placed
17 on Ontario Hydro in the future, how these demands are
18 to be met and what impact this will have on Ontario.

19 Hydro's Long Range Planning Report
20 Number 556SP deals with the three possible rates of
21 growth we can expect to experience over the next 2 or
22 3 decades. First is a decrease from the present
23 average annual increase of approximately 7 per cent
24 to a 4 per cent rate by 1982 and to continue at that
25 rate - a second possibility is to continue at the



1.2

1 current 50 year average rate of growth of 6.8 or 7
2 per cent and the last possibility considered is an
3 increase in the annual growth rate from 6.8 per cent
4 to 10 per cent.

5 In commenting on which of these 3
6 possibilities may occur, I would like to make the
7 following observations.

8 It is Hydro's responsibility to build
9 and operate the electrical system capable of meeting
10 the demands placed on it - Hydro has very little if
11 any control over the rate of growth. Public Utilities
12 Commissions such as Owen Sound are in the position
13 where even if a customer wanted to heat a barn
14 electrically - with no insulation installed at all -
15 we would have to provide him with the service even
16 though we would vehemently advise against it, and
17 unfortunately we do run into the odd situation almost
18 as bad as this.

19 Some of the methods being used in an
20 effort to arrest the rate of growth are the Conservation
21 Programmes being promoted by the various levels of
22 government and by Ontario Hydro and the Municipal
23 Utilities - however, any results from these programmes
24 are bound to be slow unless there is a clear and
25 immediate emergency such as brownouts or blackouts



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1 which might force people to act; rather than to
2 voluntarily conserve. Other methods being studied
3 are the possibilities for conservation and
4 curtailment of use by the pricing of the product.

5 From our own local experience in the
6 past year with the rapidly rising costs of oil and
7 natural gas and talk of possible shortages of these
8 energy sources - even with the unprecedented large
9 increases in the cost of hydro over the past few years,
10 people still seem to be turning in ever increasing
11 numbers to electric energy for heating and as a source
12 of energy. Possibly this is a good omen since with
13 Ontario Hydro's swing to nuclear generation it may
14 result in the preservation of energy sources such as
15 coal, oil and natural gas as feedstock supplies for
16 uses to which they are particularly suited such as in
17 the transportation field as opposed to their use as
18 a source of heat for residential and commercial
19 buildings. I would definitely have to concur with
20 the General Manager of the Toronto Hydro System who
21 I believe has voiced his doubts that the annual rate
22 of growth could be held at the 50 year average of 7
23 per cent and I too would agree that over the next 5
24 years or longer - until ample supplies of natural gas
25 and hopefully oil too, will be available from the



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1 McKenzie Delta - the Beaufort Sea and the Arctic
2 Islands that the annual rate of growth in the use of
3 electric energy will exceed the current 50 year
4 average of 6.8 per cent and will be somewhere between
5 this figure and 10 per cent.

6 I feel that every effort should be
7 made to ensure that Ontario Hydro's construction
8 programme be designed to at least accommodate a 7
9 per cent growth rate bearing in mind that with lead
10 times of 10-12 years for the construction of nuclear
11 generating plants that this will also be the length
12 of time required to rectify any deficiency in the
13 generating capability of Ontario Hydro and
14 consequently its ability to meet the demands for
15 electrical energy placed on it.

16 Many people are critical concerning
17 the generating reserve that Ontario Hydro has seen
18 fit to establish and maintain to provide the level of
19 reliability of service that the people of Ontario have
20 become used to. I am not nearly knowledgeable enough
21 to discuss the amount of reserve necessary to maintain
22 the reliability of service that should be provided -
23 this involves loss of load probability indexes - the
24 amount of reserve power available from interconnections
25 with neighbouring utilities - the time of day and year,



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when these interchanges of power are necessary, to many other ramifications - however, I would say to anyone who is interested in knowing how the general public feels about this question of reliability that that person would only have to get on the receiving end of one of our telephones after about 10 minutes of a power outage to see how the public really feel.

Permit me to come to a close with a few brief observations - I think every effort should be made to try to decrease the dependence Ontario Hydro is placing on the importation of American coal which I believe amounts to over 10 million tons per year. About the only way this can be done is to study the availability and the viability of using Western Canadian coal which I know is being strongly pursued at this point and to concentrate Ontario Hydro's generating programme on nuclear sources as the prime source of future electric energy, since uranium along with our hydraulic resources are the only indigenous sources of energy in this province.

I would heartily agree with the Provincial Treasurer, Mr. Darcy McKeough, who under questioning by the Select Committee wondering about the priorities for Government borrowings - he suggested it might be better to cut Provincial



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1 Government borrowings in favour of Ontario Hydro
2 borrowings. He compared construction of new
3 generating stations to the cost of widening highways
4 and suggested a little traffic congestion was
5 preferable to power shortages.

6 Finally, even though this Commission
7 must have a fantastic amount of reading to do, I would
8 like to recommend this lecture presented by Mr. Harold
9 A. Smith, Chief Engineer of Ontario Hydro, to the
10 Institute of Electrical Engineers in 1973 entitled
11 "Electricity Supply - Generation or Degeneration" as
12 highly recommended reading.

13 Mr. Smith's closing statement concerns
14 the majority of electricity users who are unfortunately
15 mainly a silent majority - it says - "If the majority
16 remain silent, they will find out what it's like to
17 be silent in the dark."

18 Thank you, Mr. Chairman.

19 THE CHAIRMAN: Thank you, Mr.
20 Gurnham.

21 Would you like to just remain there
22 in case there are some points that my colleagues
23 wish to raise with you? George?

24 MR. McCAGUE: There are a number
25 of points, Mr. Gurnham, that I find very interesting.



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1 That comment you made in connection with the heating
2 of some facilities which would not be unlike heating
3 a barn, you exercise no control here at all? There
4 is nothing within your power whereby you can suggest
5 that this kind of heating is extremely extravagant,
6 costly, and in a period of this kind should be
7 considered as out of the question.

8 MR. GURNHAM: We try to explain
9 this to them, sir, but we are in a position where we
10 are required to provide service, you know, and if a
11 customer chooses to ignore your advice and say: look,
12 this is going to cost a fortune and it is a exorbitant
13 waste of a valuable natural resource, he could still say
14 that and say: look, I want the service regardless.

15 Unfortunately, the City of Owen Sound
16 at the request of Ontario Hydro, have passed a by-law
17 which pertains to residential buildings whereby
18 anybody building a residential home or residence in
19 Owen Sound is required to meet the minimum electrical
20 heating standards, 2, 4 and 6 -- 2 inches in the
21 floor, 4 inches of insulation in the walls and 6
22 inches in the ceiling; and this is an excellent by-law
23 and I understand that the Province of Ontario is
24 going to pass a similar code for the Building Code
25 for the Province early in 1976, but it has no



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1 application whatsoever to commercial or industrial
2 buildings.

3 DR. STEVENSON: Is that for any
4 building, Mr. Gurnham, or just for electrically
5 heated buildings?

6 MR. GURNHAM: Any building -- any
7 residential home in Owen Sound regardless of whether
8 it is heated with gas or coal or oil or electricity,
9 and I think this was an excellent move by the City
10 and I understand there is quite a few municipalities,
11 especially in the Georgian Bay region, that have done
12 this.

13 The point I was trying to make, Mr.
14 McCague, is just that we are required to provide
15 services regardless of how the electricity is to be
16 used.

17 MR. McCAGUE: Thank you.

18 MR. COSTELLO: Mr. Gurnham, is there
19 any way that you can see that you can manage your
20 load better to knock down your peaks? In our travels
21 around, we had an excellent brief from the Town of
22 Kapuskasing which, of course, is a long distance from
23 here. They actually ring off their water heaters and
24 their air conditioners on peak periods and appear to
25 be exercising quite a bit of load management.



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MR. GURNHAM: We do that here, sir.

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We don't have any control over air conditioners.

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MR. COSTELLO: I don't know how they

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do it for air conditioners, but they say they do.

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MR. GURNHAM: We do this with our

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water heaters too, sir. We have, oh, I guess, about

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1,000 kilowatt control.

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MR. COSTELLO: Do you see any other

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areas that you might be able to manage the load better?

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MR. GURNHAM: I don't say that we

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would. And I would hate to take on this task, Mr.

12

Costello, but I think that staggered factory hours,

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this is something that maybe the Provincial Government

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could insist on.

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MR. COSTELLO: I know it goes on

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in Toronto because of transportation problems.

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MR. GURNHAM: What I am saying is,

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forcing industries to operate a night shift, but once

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you get into that you are forcing industry to pay

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shift premiums to their employees and how do they

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compete with their neighbouring competitors? All

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these things bring in bureaucracy and you just sort

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of wonder where do we stop?

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MR. COSTELLO: Thanks very much.

25

DR. STEVENSON: I would like to ask



1.10 1 you, Mr. Gurnham, about the conservation program of
2 the Owen Sound Public Utilities Commission. Could
3 you describe what you are doing in that area?

4 MR. GURNHAM: Doctor Stevenson, we
5 don't really have a great deal of control over
6 conservation, but we are certainly co-operating with
7 the Provincial Government and with Ontario Hydro on
8 their programs and in disseminating all of the
9 literature we can lay our hands on to our customers,
10 telling people about the wise use of electricity and
11 the wise use of electrical water heating, say, and
12 how to conserve items such as this.

13 We have conducted two seminars for
14 industry, one in conjunction with the Ministry of
15 Natural Resource, I am not sure, one of the Provincial
16 Ministries conducted a seminar for industry in
17 conjunction with the Utilities. We co-operated with
18 this and then, just in the last month, we ran another
19 seminar, Phase 2, we called it, for management.

20 DR. STEVENSON: One of the energy
21 conservation possibilities that is receiving a good
22 deal of attention has to do with the electrically
23 heated large residential apartment buildings. Many
24 of these are, as you know, bulk metered, that is, one
25 meter so that a tenant in one of the apartments has



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no incentive to control his own use of electricity.

I wonder if you could tell us what the policy of Owen Sound P.U.C. is on new apartment buildings. Do you propose bulk metering or individual metering?

MR. GURNHAM: I am afraid we are one of the bulk metering utilities. Any apartment building that is constructed of four suites or more we insist on bulk metering. I agree, Doctor Stevenson, this is possibly contributing to wastefulness in use by individual apartment owners who just say: well, it is part of my rent, I will sleep with the window open while the electric heater is turned full up.

DR. STEVENSON: Why do you do it?

MR. GURNHAM: Well, I can tell you quite easily, and it is a selfish motive from the point of view of the utility. We don't have to worry about move-ins and move-outs; we don't have to read each individual meter. You get into an apartment building, and we don't have any in Owen Sound, I guess the biggest one we have in Owen Sound is about 85 suites, but some of the Toronto utilities, I think, would have 200, 300, 400 suites in an apartment building and you can just imagine the amount of



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1 move-ins and move-outs and final bills.

2 Actually, the initial capital cost
3 of providing individual meters for each and every
4 apartment runs into a terrific capital cost for a
5 building of that size, so you sort of wonder about the
6 cost benefit analysis. If you do a cost benefit
7 analysis, is it really paying off? Every time we
8 have to make a final bill out, I guess it would cost
9 in the neighbourhood of \$2 to \$3 just to send a man
10 out to read a meter and turn out a final bill and then
11 get the initial reading and set up a new account to
12 another customer.

13 DR. STEVENSON: Your reaction to
14 that question, you will be glad to know, is just about
15 the same as that of half a dozen other area managers
16 and utility managers, but it represents a very serious
17 problem, doesn't it?

18 MR. GURNHAM: I realize that.

19 DR. STEVENSON: I understand that
20 the use of electricity in a large apartment building
21 can be reduced by in the order of 30 per cent to 40
22 per cent by the substitution of individual meters for
23 bulk meters and, I'm beginning to feel, although it
24 may be a little tangential to this Commission's
25 activities that it is such a clear and obvious case



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1 of energy wastage we had better make a very careful
2 study of the pros and cons, the costs of providing
3 individual metering versus the energy saved.

4 MR. GURNHAM: I did not realize
5 the figure was that big. I had seen a figure of
6 20 per cent. I did not realize it was 30 per cent
7 or 40 per cent -- give or take a per cent.

8 DR. STEVENSON: Sure. I don't want
9 to be too adamant about the actual figure.

10 MR. GURNHAM: Maybe I could ask the
11 Commission a question, if I may?

12 Have any of you gentlemen had the
13 chance to read Harold Smith's talk? I think you
14 probably have. If you haven't, it is certainly well
15 worthwhile. It is a terrific talk.

16 DR. STEVENSON: Harold Smith, for
17 those of you who don't know him, is the Chief
18 Engineer with Ontario Hydro. He has an international
19 reputation in his field. He also is known as the
20 Hydro spokesman for the view that public participation
21 should not be seen as costless.

22 He very articulately and persuasively
23 argues that we have to keep a very close check on the
24 amount that we allow ourselves, if you like, to spend
25 on public reviews of Ontario Hydro programs; it is not



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1 just the direct cost, it is the cost of delays of
2 programs and so on.

3 I agree with you that if you want
4 to get that side of the picture you can't do better
5 than read Harold Smith. There is, of course, another
6 side.

7 On page 3, Mr. Gurnham, you talk
8 about how to evaluate this question of the proper
9 level of reliability to try to achieve for a power
10 system, you point out that it is a complex area, and
11 there's no question of this. One of the things that
12 the Ontario Energy Board said in relation to this
13 question was that there was need for a study of
14 reliability of electric supply from a customer's
15 perspective. Studies that have been made seem to
16 be studies made by Ontario Hydro using rule-of-thumb
17 indices for the optimum frequency of outages, and the
18 figure of one day in 10 years for a system wide
19 failure is apparently the one that is in use.

20 The Energy Board said, well, let's
21 ask the customers of Ontario Hydro whether they would
22 be willing to put up with a slightly more frequent
23 risk of outage in order to save some of the capital
24 costs that this reserve margin that Hydro maintains it
25 is responsible for; in other words, lower rates, more



1 frequent outages.

2 Do you think that this Commission
3 should use some of our research budget to investigate
4 this question? Do you think we could perhaps do it
5 from a different perspective than Ontario Hydro?

6 MR. GURNHAM: I think it might be
7 a real good idea, Doctor Stevenson. I would like to
8 suggest that maybe you ask The Globe and Mail how
9 they would like to have their press run delayed by
10 four hours to stagger the peak.

11 DR. STEVENSON: What would happen
12 to the Kennedys and Russells and Pittsburgh Glass?

13 MR. GURNHAM: I couldn't agree more,
14 but there is no way you could ask Canadian Pittsburgh
15 Industries, for instance -- these are one of the
16 industries that I think Doctor Porter mentioned in
17 his little talk last night where even a couple of
18 seconds outage is vital. We have an automatic
19 re-close on a 44 kv. line feeding Canadian Pittsburgh
20 Industries. This is something that re-closes within
21 10 cycles, a sixth of a second, and right away they
22 'phone up and say: what the hell is going on; don't
23 you know we got problems?

24 MR. COSTELLO: They don't have any
25 backup generation?



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MR. GURNHAM: They do have 1,000.

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Their peak load is 5 megawatts, Mr. Costello, and

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they do have a 1 megawatt diesel job that will come

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on within 10 seconds of outage to carry them, but

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we give them two line circuits, two 44 kv. circuits

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with automatic throw-over.

7

MR. COSTELLO: Maybe you should

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charge them extra for this kind of service?

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MR. GURNHAM: Possibly you are right.

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MR. COSTELLO: These are some of

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the things we have to look at. I'm not suggesting

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we do that.

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MR. GURNHAM: When this industry

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came to Owen Sound or were talking about coming to

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Owen Sound, this is one of the things that they laid

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on the table, so to speak. They said: we need two

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line service. Well, the City of Owen Sound was so

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anxious to acquire an industry of that magnitude and

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that reputé, you might say, that -- no problem at all,

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we will provide it, and certainly no question of

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premium rates.

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MR. COSTELLO: We are entering a

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different era.

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MR. GURNHAM: I agree.

25

MR. COSTELLO: And what we used to



1.17 1 do maybe we are not going to be able to do in the
2 future. We are concerned about it.

3 DR. ROSEHART: What percentage of
4 new houses in Owen Sound would be electrically heated,
5 say over the past year or two years?

6 MR. GURNHAM: I'm sorry, I don't
7 have that figure.

8 DR. ROSEHART: Could you estimate?

9 MR. GURNHAM: It is well over 50
10 per cent -- well over 60 per cent, I would say, and
11 laterally it is almost every darn one, to be quite
12 honest with you.

13 DR. ROSEHART: What about in the
14 commercial sector, stores and stuff like that?

15 MR. GURNHAM: There has not been
16 that much activity in that field, to be quite honest
17 with you, but there has been two or three cases where
18 stores have gone in with heat pumps. They get both
19 the air conditioning and the heating and these seem to
20 be becoming more and more popular.

21 DR. ROSEHART: Thank you.

22 THE CHAIRMAN: Thank you, very much,
23 Mr. Gurnham. It was a very interesting discussion.

24 Is Mr. Fenton here? Mr. Fenton,
25 would you like to come and present your brief?



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MR. R.D. FENTON: Dr. Porter,

Commissioners, ladies and gentlemen.

-We feel it is indeed a privilege to voice our concern through such a body as The Royal Commission on Electric Power Planning.

The purpose of this brief is to draw attention to a problem unique to nuclear power installations, namely the management of nuclear wastes.

There are two publications that we found to be very informative on this subject. These are "Nuclear Power in Canada--Questions and Answers" prepared by a committee of the Canadian Nuclear Association and "Managing Nuclear Wastes" by Peter J. Dyne, a publication of Atomic Energy of Canada Limited. I have copies of this if you wish.

We are satisfied after studying these and other publications on the subject that adequate on-site storage for nuclear wastes have been provided for the immediate future.

In the foreseeable future (the next 25 years) however, according to these publications, there will be a need for a central storage site for high level nuclear waste.

If in fact a central nuclear waste storage site is created, it follows that the wastes



2.2 1 must be transported to this site. This is our main
2 area of concern--the transportation of high level
3 nuclear waste via public thoroughfares.

4 To our knowledge, there is no public,
5 documented proposal for the transportation of such
6 materials.

7 We feel that as citizens of an area
8 through which this material has been or most certainly
9 will be transported, we have every right to be informed
10 as to the hazards involved in transportation and the
11 precautions taken against accidents during
12 transportation.

13 It was very disturbing to us when we
14 contacted our local chief of police to find that our
15 police force has never been approached by Ontario
16 Hydro with a contingency plan for dealing with an
17 accident involving radioactive or toxic materials being
18 transported to or from the Bruce Nuclear Complex.

19 In summary, we feel that Ontario Hydro
20 and Atomic Energy of Canada are negligent in not having
21 a plan for transporting this material via the public
22 thoroughfares which will stand public scrutiny; or if
23 they have such a plan they are negligent in not
24 informing the concerned public and the proper local
25 authorities of its content. We sincerely hope that



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1 the latter is the case.

2 Thank you.

3 THE CHAIRMAN: Thank you very much,
4 Mr. Fenton, for raising this concern. I believe that
5 this is the first time that this has been raised, the
6 actual transportation of radioactive wastes. We have
7 had several people raise the question of the storage
8 and monitoring of them but not the transportation.

9 This will obviously be an area which
10 the Commission will be considering in the main
11 inquiry. The question of course is not in the
12 immediate time scale but it is nonetheless a very
13 important question and comes into our category of
14 course of the management of radioactive wastes and
15 appears in our terms of reference.

16 There is little, I think, clarification
17 needed of this although I see Dr. Rosehart signalling,
18 so perhaps he has a point.

19 DR. ROSEHART: I agree with your
20 comment that the public could be better informed about
21 this matter of transporting radioactive waste and I
22 believe the agency that is responsible is the
23 Regulatory Agency in Canada, the Atomic Energy Control
24 Board either by themselves or with the Federal
25 Department of Transport. I think you raised an



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1 interesting point that the local police chief had never
2 been informed of any contingency plan.

3 MR. FENTON: We believe of course
4 that there has been material of this sort transported
5 throughout our area. I would doubt it could help but be
6 true because of the Bruce Contacts being so close to
7 us.

8 DR. ROSEHART: I believe you are
9 correct, from Douglas Point throughout Canada radioactive
10 material is transported and I believe the AECS has
11 some very strict regulations but I think since you
12 have raised the point I am sure we will be looking into
13 it in more detail.

14 Just to drift away from the subject
15 for a while, this is quite an issue in the U.S. at the
16 present time with the airlines flying, the dangers
17 associated with packaging radioactive wastes and
18 isotopes and materials like this.

19 DR. STEVENSON: I would like to ask you,
20 Mr. Fenton, if you could tell the Commission a little
21 more about the impact of Douglas Point on your area.
22 It is a rather unique opportunity for us in a sense and
23 it has become increasingly apparent to us that the
24 Douglas Point experience and the experience of Port
25 Elgin and Kincardine area, South Bruce, Huron County,



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1 is the laboratory, if you like, the effects of a large
2 Ontario Hydro complex on a fairly sparsely populated
3 area. Is there any way in a sort of a capsule way that
4 you could sum up your feelings about what it has meant
5 to the economy of the Port Elgin area, and give us some
6 guidance here.

7 MR. FENTON: I happen to be a teacher
8 at the local highschool in Port Elgin and I have been
9 for the past ten years, and I am also a native of
10 Port Elgin and I believe Mr. McCague would also have some
11 answers on this question.

12 It is not the same area that it has
13 been. Through good management in the Port Elgin area,
14 I feel we have grown very gracefully with the hydro
15 complex. There are problems. You cannot expect any
16 community to grow an average 20 per cent per year,
17 year after year, and not have problems.

18 We have a new secondary school which
19 we just moved into this year which is directly the
20 result of this.

21 It has been quite an experience, I don't
22 know, looking back over my personal experience in the
23 school, for instance, whether I'd want to go through
24 another five years of rapid growth like this without
25 at least more moral support.



2.6

1 MR. McCAGUE: What is the change in
2 population in Port Elgin in five or six years, Mr.
3 Fenton?

4 MR. FENTON: It has doubled, I would
5 say, in seven years. It is approximately 4500 to 4700
6 now and we coasted along for many years between 1800
7 and 2000.

8 I also sit on the local planning board
9 and there are many planning problems that come up.
10 Our Official Plan was approved for the first time
11 this year, in January, but it was ten years in
12 preparation and it was revised every second year -
13 a trial submission and then was sent back because it
14 was outdated and we know in fact when it was submitted
15 in the first of January of this year it was an
16 imperfect document because there were so many rapid
17 changes we could not keep up with them - that type
18 of problem - but on the whole I think the area is very
19 orderly.

20 DR. STEVENSON: Have you found Ontario
21 Hydro easy to deal with in terms of tax sharing
22 arrangements and the like?

23 MR. FENTON: No, I don't think so,
24 quite frankly. They are fair, you know, they are just
25 like any other corporation and that is the way we



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1 deal with them. They are fair but they must have the
2 facts before they can pay the dollars of course.
3 That is almost presupposing that what you are asking
4 for exists; in other words they can't pay for things
5 that are not yet in existence so after things are
6 built and the money has been spent, they have come
7 along with certainly a lot of financial help.

8 I know we as a school have contact
9 with people there and it is excellent for our
10 students, just excellent. There we could not ask for
11 a better chemistry -- anything. I think it is
12 probably as good as it could be. Personal cooperation
13 is excellent.

14 DR. STEVENSON: What does it mean in
15 terms of jobs for the young people of the area,
16 permanent jobs rather than construction?

17 MR. FENTON: It means two things.
18 One, I think the small local industries are finding it
19 very difficult to compete with the wages offered there
20 but I don't think that is anything extraordinary.

21 Secondly, our local people are getting
22 excellent jobs at excellent money and just like any
23 other corporation, I suppose, if the initiative is
24 there they can stay here with the company. So it has
25 been good for our labour market and a little tough on



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1 our local industries.

2
3 MR. McCAGUE: I suppose from the
4 standpoint of the farmer, it has put him in a very
5 tight spot labour-wise, that is farm labour would be
6 very difficult to come by - likely more difficult for
7 him than the Port Elgin businessmen, would you think?

8 MR. FENTON: I would think so, yes.
9 We have quite a large area. I am talking from our
10 school. Our students come from very near Allenford
11 which is 15 to 18 miles from Port Elgin and almost
12 18 miles the other way, nearly down to Tiverton which
13 is sort of right on the boundary of the Bruce Nuclear
14 Complex so we do have quite a number of rural students.

15 I think the farm people have been helped
16 somewhat by the fact that they are getting much better
17 machinery all the time and they don't need as much
18 manual labour as they used to. 10 or 12 years ago,
19 this would have been a very serious problem but now
20 they are managing more land with fewer people.
21 It is a problem more and more, but they are paying
22 good wages as well.

23 MR. COSTELLO: What about the impact
24 on retired people? Is that a serious problem?

25 MR. FENTON: Yes, that is very serious,
people on fixed income. I think I can say that



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1 Port Elgin was a retirement community until 1962 -
2 1964. I think I would be safe in saying that. It is
3 certainly not now. It is a very, very rapidly growing
4 area and people on fixed incomes I really don't know
5 how they live. Our taxes have gone very high. We
6 do have the services for those taxes, however, I am
7 not complaining about it, but you know, the cost of
8 living the way it has gone, and the fixed income
9 people are really having difficulties.

10 However, there is a 32 unit senior
11 citizen's building and another 21 under construction
12 now so we have been given provincial aid to that end
13 as well.

14 MR. McCAGUE: As you mentioned, I am
15 somewhat familiar with the area and it is my impression
16 that you have had good, municipal government in Port
17 Elgin over the years but in retrospect, had you known
18 this was developing, this was coming, and its magnitude,
19 is there some advance planning that might have been
20 useful to the community? Most people in the community
21 could not have grasped this seven or eight years ago.

22 MR. FENTON: No, that is true.

23 MR. McCAGUE: Yet it likely was known
24 by someone approximately what the development was going
25 to be. Do you see anything here that would be useful in



2.10 1 development in other parts of Ontario of a similar
2 nature where more information should be given to the
3 community and the people to assist them in the
4 adjustment.

5 MR. FENTON: That is strange that you
6 should ask that. Last Wednesday night, I was cleaning
7 out some - since we just moved into a new school and
8 we are still trying to get settled down - I was cleaning
9 out some old papers and based on figures that were
10 supplied to us by Ontario Hydro in the late '60's,
11 and our first submission to the Bruce County Board of
12 Education, shortly after it was formed, it stated
13 something to the effect that by 1976 we were expecting
14 825 students in the secondary school system at Port
15 Elgin; and, oddly enough, that is going to be almost
16 exactly right. So they told us, that is the educational
17 people, that the students were coming. I think the
18 municipality was aware that the houses had to come to
19 house those people. Now, I don't know where you would
20 go from there.

21 As I mentioned before, I think maybe
22 Port Elgin -- I am a geographer and I have taken a little
23 bit of planning and I would like to say that Port Elgin,
24 in my estimation, is one of the prettiest little towns
25 and most orderly towns that you will find anywhere and



2.11 1 that is true --

2 MR. McCAGUE: That has been traditional.

3 MR. FENTON: I think so, yes, and it
4 is amazing that it has continued through this rapid
5 growth period, and you will find this true today although
6 without thwarting private enterprise I wonder just what
7 you could do other than set down the ground rules and
8 follow them.

9 DR. STEVENSON: One last question,
10 is the town concerned about a let-down once the
11 construction portion of the Douglas Point site has
12 peaked and decline to the permanent operating staff
13 takes place? Is there a feeling that you might have
14 over-built in the community and be left with services --

15 MR. FENTON: Quite frankly, it comes
16 to the surface now and then but we just don't have
17 time to consider it. It is hard to believe the
18 activity in this small town. It does come to the
19 surface all right but I think, and again I think Mr.
20 McCague would bear this out, that given a chance Port
21 Elgin will continue to become a retirement community.

22 We have many, many people that would
23 like to get to the Bruce environment these days. I
24 don't think the over-building problem will be a
25 factor as long as we keep our planning orderly in the



2.12 1 commercial and industrial sectors. I think it will go
2 hand in hand.

3 THE CHAIRMAN: Thank you very much,
4 Mr. Fenton, for joining us this afternoon. How far is
5 it from Port Elgin?

6 MR. FENTON: 25 miles and it is
7 approximately 15 miles from Bruce.

8 THE CHAIRMAN: Thank you for coming.
9 Is there a representative of the
10 Business Association of Port Elgin here?

11 Barrie Pollution Probe, it says
12 "possibly", so that apparently is not to be.

13 Then, Mr. Hawkins, who I see is here.

14 MR. HAWKINS: Dr. Porter, and the
15 members of the Commission; ladies and gentlemen.
16 This is a submission from Radio Station CFOS in this
17 city. The thinking expressed in this submission is
18 based on a three-part premise.

19 First, that the population of Ontario
20 will continue to increase during the next twenty
21 years and generally at the same rate as for the past
22 twenty years.

23 Secondly, that although science and
24 technology will likely make available to Ontario
25 residents different power sources by the turn of the



2.13

1 century, the need for a strong electric power system
2 will continue for some time into the 21st century.
3 Also, that between now and the year two thousand there
4 will be an acceleration of the need for electric power
5 in Ontario.

6 Third, that inasmuch as the electric
7 power system in Ontario belongs to its citizens there
8 should always be a significant demonstrated advantage
9 in cost to the user as well as the obvious advantages
10 of always being available and also being under the
11 control of the government of the day.

12 Our thoughts concern three aspects of
13 electric power planning.

14 Serving people -- available supply --
15 conservation.

16 Under the heading, Serving People,
17 the fundamental objective of planning for electric power
18 development should be to benefit people as people
19 perceive their needs and interests to be. The planning
20 should provide all Ontario citizens with the best
21 possible opportunity for a quality life style including
22 the necessary economic success to support it.

23 Present indications are that major
24 Ontario cities will continue to grow relatively faster
25 than the smaller cities, towns and villages. If it's



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reasonable to suppose, and we believe it is, that without some strong redirecting, New York today is Toronto 25 years from now .. then who needs it and what's more, who can afford it in terms of dollar cost and damage to people. Power planning should reverse the trend to super congregations of industry, business, government functions, education services and the like in a relatively small space. The traditional advantages of large cities are no longer worth it to an increasingly large percentage of their residents. As well as the obvious problems such as transportation and pollution .. and we quote a headline from the front page of the Globe and Mail of Friday, November 21st this year "INDUSTRY CUTBACKS ORDERED AS POLLUTION INDEX HITS FIVE YEAR HIGH" .. problems of physical and mental health must also be a consideration. The pill popping syndrome is strong in large cities and peters out to almost zero in rural areas.

Most industrial plants and other businesses do not need to be unwelcome neighbours. It should be possible for people to want to live, work and play .. carry out all three fundamental life activities in close proximity and generally within a radius of ten miles. It should be possible for people to want to live, to work and to play.



2.15 1 Both the availability of electric
2 power and a cost differential should be used to slow
3 down and if necessary limit the population growth of
4 large cities and also to decentralize future
5 industrial and business development to the benefit
6 of smaller population centres and particularly in central
7 and northern Ontario. The objective should be to
8 benefit existing population centres rather than building
9 new towns and cities. For example, the proposed new
10 city of Pickering, which was born and died on paper,
11 would have cost Ontario taxpayers a great deal of
12 money at a time when many Ontario cities, and
13 particularly towns, badly needed industrial and
14 population growth to support present municipal services
15 and provide a stronger base for a better future.
16 Keeping in mind that a shortage of food may be more
17 serious than a shortage of power sources ten or
18 twenty years from now, all of this planning should be
19 consistent with maintaining in production the most
20 desirable food producing land, particularly in
21 southern Ontario.

22 Under the heading, Available Supply,
23 we should not be penny wise and pound foolish in our
24 approach to the provision of electric power
25 generating capacity. If gas, oil and coal sources



2.16

1 dwindle and or become much more costly, there will
2 be a much greater dependency on electric power in
3 Ontario and a substantial shift in the near future by
4 industry, business and householders to electricity
5 for heating in anticipation of problems of price and
6 supply of the other major fuel sources for heating.
7 Ontario should plan for a substantial surplus
8 generating capacity for electricity and sell it outside
9 of the province when it's not needed and have it
10 available for the very real but unpredictable increase
11 in demand during the next ten to twenty years.
12 Although the birth rate will not likely go up,
13 population will increase because Ontario will continue
14 to be one of the most desirable provinces in which
15 to live which will attract other Canadians. As well,
16 Canada and this province should continue to be
17 prosperous, at least compared to many other parts of
18 the world, which will mean an immigration policy in
19 the future similar to the past .. at least in numbers
20 per year. Many of these persons will locate in
21 Ontario. The indicated increased need is substantial
22 but it should be significantly reduced by a strong
23 emphasis on the conservation of all power sources
24 including electricity.

25 Under the heading, Conservation of



2.17

1 Electric Power, conservation of electric power should
2 be approached in two ways. First, to make the saving
3 of electric energy a virtue similar to the virtue of
4 saving money, which most Canadians understand, although
5 not as many consistently practice it now as in previous
6 generations. This could come from long term
7 education and example and especially government example.
8 Second, a substantial reduction in cost should be
9 available to those who use electric power in approved
10 ways such as approved new construction, approved
11 insulation of older homes and other buildings, those
12 whose main power use is during mid-night to 6:00 am
13 and the like.

14 In summary, as a final thought we
15 reiterate two points which are central to our thinking.
16 Power planning should maximize the opportunity for a
17 much higher quality of life style for a much larger
18 number of Ontario citizens and should place a premium
19 on the prudent use of electric power and the conservation
20 of prime food producing lands. The ultimate challenge
21 of electric power planning is not only to meet
22 unpredictable needs but to neutralize or at least
23 substantially ameliorate for the general public some
24 of the notable excesses of our industrial society in
25 Ontario.



2.18

1 THE CHAIRMAN: Thank you very much,
2 Mr. Hawkins.

3 May I personally congratulate you on
4 what I regard as a very good essay, in fact, a great
5 essay; that is far more than a submission, and we
6 appreciate it.

7 You have raised many important issues
8 and concerns and I am sure that some of my colleagues
9 would wish to raise additional points with you.

10 George?

11 MR. McCAGUE: Yes, indeed it is a very
12 interesting and thoughtful presentation, Mr. Hawkins.
13 I have not had time to completely digest this of course
14 but in the first paragraph it is your opinion that
15 the population of Ontario will continue to increase
16 just about the same as we have seen, right?

17 MR. HAWKINS: Yes, I think there will
18 be some changes in the patterns but I think the
19 desirability of this province in the next twenty years
20 as a place to locate and live both by persons who live
21 in other parts of Canada notably other than British
22 Columbia or Alberta at the present time, I think that
23 will increase. There will be an increasing trend there.

24 I think also as far as the immigration
25 situation is concerned, we will continue to be a very



2.19 1 attractive part of the world for persons in most of
2 the other parts of the world to want to locate and to
3 live and if this country gives more than a lip service
4 to its post-war attitude towards the United Nations
5 and towards the emerging nations and to the problems
6 of the Europe and Asia, I think we will have to also
7 have at least the same kind of immigration policy as
8 far as numbers are concerned, at least into the
9 foreseeable future.

10 I think if the future is as the past
11 in that connection, the majority of these people will
12 want to locate in Ontario. One of my problems, one
13 of the things I am trying to point out, is also they
14 are going to want to locate in Toronto or environs,
15 and I think that we should be using Ontario Hydro
16 which is an ubiquitous type of service, if I may use
17 that word, should be used in order to influence these
18 people to locate elsewhere because opportunity is else-
19 where.

20 I think most of the people who gravitate
21 to Toronto or to some of the other larger centres
22 whether immigrants or whether from this province or
23 other parts of Canada go there primarily for economic
24 reasons and I think if economic opportunities were
25 generally the same north of Orangeville, for instance,



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1 I think likely they would want to explore and perhaps
2 locate there as well.

3 MR. McCAGUE: You have mentioned New
4 York and you wonder about Toronto twenty-five years
5 from now. Now, what incentives or what course of
6 action do you think will be effective in this effort
7 towards decentralization? I would expect that the
8 majority of residents of Ontario agree with you and
9 yet how does this become effected and put into action.
10 You mentioned Hydro as being an instance.

11 MR. HAWKINS: First of all, I
12 certainly do not regard myself as an expert in this
13 area. I would regard myself perhaps as an alert
14 citizen.

15 One thing we do know from what you have
16 said is that what we have done in the past has not
17 worked so I think we should have a completely open
18 mind to the possibilities of doing something else
19 and certainly not likely some kind of re-organization
20 of what we have done in the past.

21 I know there are many people here who
22 are in the hydroelectric power business who throw
23 their hands up at any kind of suggestion that somebody
24 in this province could get power with a better
25 arrangement generally than somebody else but I submit



2.21

1 that we are not likely going to solve a very
2 substantial problem which is looming before us by
3 using the past methods so this is why in my
4 estimation I think there must be some premium, some
5 continuing tangible valuable premium in the pricing
6 which makes it valuable for someone to locate outside
7 of the congested metropolitan areas.

8 It may be rushing things a little in
9 the minds of many to suggest that Toronto twenty-five
10 years from now is New York today but I think there are
11 a lot of similarities. You have a multi-national
12 situation in both places; you have a tremendous
13 concentration of manufacturing capacity; you have got
14 government there; you have got cultural centres;
15 plus a tremendous transportation and pollution problem.

16 You have got Sam Cass in Toronto
17 saying yesterday, reported on the front page of
18 the Globe and Mail today, he doesn't believe the
19 statistics which indicate that there has been a
20 tremendous increase in the number of persons using
21 cars to go into downtown Toronto. He says the increase
22 seems to be so large I just don't believe it. Go back
23 and re-work it. It can't be possible. I think likely
24 when they re-work it, it is going to be a lot worse
25 than anyone had hoped it would be.



2.22

1 Have I helped you, sir?

2 MR. McCAGUE: Thank you, Mr. Hawkins.

3 It is a big question.

4 MR. HAWKINS: If I can bring it down
5 to one point, I think the Commission has to be
6 prepared to say yes, we wish we were not recommending
7 cost differential but if a cost differential will do it,
8 then we will provide a premium for industries which are
9 electric power intensive and wish to locate in Ontario
10 in the future and will go some place other than Toronto,
11 Hamilton, Windsor or the like. Everyone will raise a
12 hue and cry, you are going to give somebody something
13 that you are not going to give everybody else except
14 that the man who is located in Toronto or in a
15 metropolitan centre already has some advantages as far
16 as the production of his goods and services are
17 concerned, otherwise he would not be there. He has
18 a labour pool, a larger labourer pool; he is likely
19 closer to his supply of raw material; closer to his
20 market. He also has other problems as far as people
21 having difficulty getting to work and wishing they were
22 some place else a lot of the time, so I think this
23 offsets the advantages he has there and I think quite
24 an interesting scenario could be prepared to indicate
25 that there is a balancing out here and in the final



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1 analysis we are not only interested in today but ten
2 years from now and twenty years from now in both
3 situations it will be a highly desirable thing for
4 everyone.

5 MR. McCAGUE: Thank you, Mr. Hawkins.
6 That was very interesting.

7 MR. COSTELLO: Mr. Hawkins, you
8 certainly brought up a good point there about differential
9 rates. Of course you know that the Ontario Development
10 Corporation does provide assistance for companies to
11 locate in areas, and not in Toronto, really.

12 This really has not worked too well
13 but there are other ways such as tax breaks which could
14 be applied not only to the company but to people
15 working for it. I think you have got a good point.
16 What has not worked in the past - we know what has not
17 at
18 worked in the past and/breakfast this morning, you
19 mentioned better transportation.

20 MR. HAWKINS: Could I reply to that
21 and say that you are speaking I presume of a designated
22 area. A designated area is a fleeting thing. It comes
23 and goes with the government of the day and the
24 attitude towards their other problems.

25 I am talking about something which is a
long-term permanent type of thing.



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MR. COSTELLO: Maybe a tax credit could do the same thing.

MR. HAWKINS: Yes, it could be perhaps handled that way but that I think is even more difficult or perhaps as difficult anyway for governments to undertake to do.

MR. COSTELLO: It is a challenge, which we are aware of.

MR. HAWKINS: I am glad it is you, not me.

DR. STEVENSON: Mr. Hawkins, I am intrigued by the point you make on conservation of electric power, that you might be able to use rates to induce people to conserve. You suggest that discounts should be offered to those who use electricity at night-time.

This is a very much studied matter particularly in Europe. As you know, it is absolutely commonplace to have electricity rates that are higher in the day-time than the night-time, higher in the off-peak seasons of the year than the peak seasons. It has not happened in North America but there are one or two utilities where experiments are under way, in Vermont, for example, just to make sure that the householders got the message they put the day-time



2.25 1 rate six times the night-time rate. They are still
2 evaluating the results.

3 Do you think that people might alter
4 their pattern of consumption of electricity if they
5 were told that kilowatt hours, let's say after 9
6 o'clock at night, would only cost half as much as those
7 during the day-time, or are we so affluent that we
8 would consider it not worth the bother to turn on a
9 washing machine at an odd hour of the day like that.

10 MR. HAWKINS: I think an important
11 segment of the public is much ahead of government
12 and much ahead of this Commission in their thinking
13 about the problems that are facing them today and in
14 the future and I think there would be an important
15 segment who are ready to do that now if it was properly
16 explained to them and if there was some advantage to
17 them not only from the standpoint of dollar advantage
18 to them.

19 I am thinking immediately of the
20 senior citizens that the gentleman from Port Elgin
21 was saying are hard pressed as far as balancing their
22 income and their out-go. I am not suggesting that
23 we should weigh any more heavily on these fine people
24 by asking them to dramatically change their life style.
25 There is one group which would have another reason for



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1 wanting to say, you know, I would like to participate
2 in such a plan.

3 I think that there are going to be
4 some dramatic things happen before this Commission has
5 completed its hearing and submitted its report to the
6 government which perhaps are going to dramatize the
7 fact that you are not necessarily going to be able to
8 turn a switch and get a light forever and as many lights
9 as you want to. I think that will help.

10 I also submit this, and I am going back
11 twenty-five years, I guess, and you are never going
12 to get this type of situation again, at least I hope,
13 but during the time of crisis, during the war, this
14 country did a tremendous job of pulling together and
15 solving problems of doing without things in order to
16 have other things and so forth, so I don't think the
17 will to do that or desire of a citizen has deteriorated
18 to the point where we would just throw up our hands and
19 say, to hell with it, I don't trust those guys, they
20 are not straight enough; I don't think that that is
21 true.

22 I think it is worth a try, especially
23 if those figures that I saw last night about the cost
24 of a 60 watt light-bulb - if Ontario Hydro knows what
25 they are reflecting.



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DR. STEVENSON: I think I observed last night, I felt that there were so many things that could be done to save energy, very substantial amounts of it, without having any impact at all on what normally we would consider our life style or standard of living.

MR. HAWKINS: I think we have to bear in mind we are really not too far away from cutting down the trees in this country and for so much of the natural resources of this country to serve such a small number of people. You burn this up; you don't take nails out of boards; who cares. So this was a good foundation.

Then we had the depression and a lot of people who are the decision people today lived through that depression and did not like it; and then we had the war and I think afterwards the post-war progress just kept going on and going on and nobody said stop. Why should we look back? Always look forward.

I don't think this means that self interest has reached the point where persons are not interested in thinking of others in concert to benefit everyone.

THE CHAIRMAN: Mr. Hawkins, you have certainly given us plenty to think about. This is



2.28 1 the whole objective of course of these preliminary
2 meetings; the idea that perhaps this Commission will
3 have to come up with some home truths of course has
4 occurred to us.

5 Maybe at some stage in our work,
6 not for quite a time yet, we may well come up with
7 some alternative scenarios to act as a basis for maybe
8 the last set of hearings so we can say, well, is it
9 this or this or this? Assuming this and this and this,
10 then those and those and those, and so on and some of
11 these scenarios no doubt will be pretty down to earth.
12 One has to be realistic, I suppose.

13 MR. HAWKINS: If you are suggesting,
14 and I am not putting words in your mouth, I hope, if
15 you are suggesting the public is going to prescribe
16 their own bad medicine, is that what you are suggesting
17 at these hearings?

18 THE CHAIRMAN: No. Of course we will
19 hear if they are and we have been hearing a little
20 already after the Commission is able to establish
21 various alternatives, various trade-offs, because
22 this is a trade-off world, but on the one hand if and
23 on the other hand that; and these then will be then
24 perhaps packaging the information and the evidence that
25 we have assembled and structured in such a way that



2.29

1 the decision-making process may be facilitated. I
2 think it was from that point of view.

3 MR. HAWKINS: You are going to provide
4 them with alternative possibilities.

5 THE CHAIRMAN: Could be.

6 MR. HAWKINS: I don't have any
7 thoughts about that. I think all you can expect from
8 the public today is what it feels it needs in the
9 immediate future and the Commission is going to have
10 to take the crunch and wrestle with it for twenty years
11 from now.

12 MR. McCAGUE: You wonder if a shortage
13 of food may be more serious than a shortage of power
14 sources some time in the future.

15 This is only a comment. The city of
16 Toronto and the city of Brampton now cover a whole
17 lot of York and Peel Counties and the greatest loss
18 of land I believe on record from 1941 to 1971 was in
19 Peel County which lost 61 per cent, and there may be
20 people in the audience that will recall that Peel
21 County is fairly heavy clay and that was the country
22 where alfalfa was originated in Ontario. That goes
23 back a long time, but it is still one of our most
24 important forage crops.

25 I guess this is maybe the best land we



2.30

1 have in Ontario and the loss in that county is 61 per
2 cent in that 30-year period.

3 MR. HAWKINS: That is what I was
4 thinking of. The thrust of my presentation here is
5 that electrical power be used to influence people
6 to go other than into the southern parts of the
7 province because if that continues, it is only going
8 to be with nutrition of arable land; and persons farming
9 in the province of Ontario know that the best land is
10 located from Orangeville south in the province of
11 Ontario. From Dundalk to Barrie there are pockets of
12 good land but most are livestock products, and when
13 you get about Barrie there are not too many people
14 who want to farm the land; so our point of view is
15 we should not be using up this highly productive land
16 in the southern part of the province. That is the
17 point of the conservation of land, better use it further
18 north if we are going to have any large cities and
19 towns and that sort of thing.

20 THE CHAIRMAN: Thank you very much,
21 Mr. Hawkins. I mentioned last night one of the major
22 objects of these meetings was that the Commission
23 should be educated and you have done^a/very good job.

24 MR. HAWKINS: One of my objectives
25 is to dramatize the fact that persons born and raised



2.31 1 in this part of Ontario and educated to highschool or
2 post-highschool, many of them want to live here, would
3 like to live here, have a family, and have a
4 reasonable standard of living, but feel they must
5 move out in order to get the type of life standard
6 they aspire to, and they go to other parts of the
7 province or southern parts of the province or to
8 Toronto and many work for twenty-five years so they can
9 retire back to a place like this. I think that is
10 wrong. We should reverse that and have a bigger
11 opportunity for more of them to stay in this part of
12 the country.

13 THE CHAIRMAN: Thank you.

14 Are there any more written submissions
15 available at this time. If not, I think perhaps we
16 might take a coffee break and then go into the general
17 participation stage.

18 Bill Stevenson will take the chair
19 after coffee. I am going back to Toronto, one of the
20 reasons being to chat with Mr. Justice Thomas Burger
21 to discuss with him public participation. He managed
22 to stay a few hours in Toronto on a trip east so we
23 managed to grab him; so I unfortunately will not be
24 here for the remainder of the proceedings.

25 So might we break for about one quarter
of an hour.

---SHORT RECESS.



---UPON RESUMING:

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THE CHAIRMAN: I had two people come forward at the coffee break and indicate that they have submissions for the Commission.

We would like to hear first from Mr. Coombs of Dufferin County.

I should point out that Mr. Coombs was first of the view that his submission was too parochial for this situation, dealing with Dufferin County matters, but luckily we were able to prevail upon him to come forward as an expert in Dufferin County.

MR. FRED E. COOMBS: I would like to say first that I very heartily endorse the submission made by Mr. Hawkins, in fact so much so that I feel like the juggler standing in the wings of the Vaudeville Theatre and the striptease act has just come off and, he says to his assistant, this is going to be a very hard act to follow.

I have complimented Mr. Hawkins on his submission. I think that the views he has put forward there apply very definitely to the County of Dufferin, which lies to the south of here.

Dufferin County is predominantly a rural area, and many of the citizens would not be considered wealthy by urban standards. Land is the major tangible asset for most of the citizens of Dufferin



3.2 1 County. Therefore the imposition - by any governmental
2 authority - of land uses or land controls which cause
3 a decrease in property value will meet with much more
4 public opposition in Dufferin County than would take
5 place if a similar land use or land control were imposed
6 in the immediate vicinity of an urban community where
7 the total tangible wealth of the citizens is less
8 dependent on land resale value.

9 The resale value of a high proportion
10 of Dufferin County land is dependent on its scenic
11 beauty since a high proportion of land sales are from
12 farmers to non-farmers who are seeking relief from
13 an urban environment. This tends to increase the above
14 problem.

15 Many people in Dufferin County - rightly
16 or wrongly - feel that the Ontario Hydro has been less
17 considerate than it should have been of the individual
18 rights of the property owners in preparing proposed
19 Hydro rights of way from transmission lines, and that
20 in some cases the motives of the planners are
21 questionable.

22 No doubt the planners would have a
23 suitably defensive rebuttal for such an expression of
24 public opinion but the fact remains that the feeling
25 does exist (rightly or wrongly, as said before) and
this clearly indicates that the attempts of the Ontario



1 Hydro staff to enlist public sympathy and support have
2 not been effective.

3 This does not seem to be the place
4 to discuss why the attempts to enlist public sympathy
5 have not been effective, but it must be recognized
6 that they have not been so. Perhaps the problem is that
7 one should not expect an engineering planner to do
8 the job of a Public Relations expert. Certainly Ontario
9 Hydro needs to improve their public image in this
10 regard.

11 On the subject of environment, in the
12 area of conservation, environmental control, ecology,
13 etc., most of the residents of Dufferin County would
14 agree that due regard must be given to such matters,
15 but that in many cases these fields of consideration
16 are populated by zealots who would sacrifice too many
17 practical considerations on the altar of an ideal. This
18 prblem is increased when one lists the various'
19 agents of Government, Conservation Authorities, Municipal
20 Planning controls etc. etc., who have such conflicting
21 jurisdiction in the environmental area that the result
22 can border on complete confusion. In this matter the
23 public feeling might indicate that more common sense
24 and less zealous pursuit of an ideal is indicated.

25 On the planning of facilities, a group
of ordinary citizens, such as the residents of Dufferin



3.4 1 County, is not in a position to comment on the future
2 needs for generating or transmission facilities.

3 That would require an intensive
4 technical study that we are not equipped to do. However,
5 there is some degree of public feeling that citizens
6 are encouraged by vendors of many types of energy to
7 indulge in "labour saving devices" and improved
8 techniques which increase consumption of energy and
9 are subsequently confronted with the cost increase
10 associated with the capital expenditures necessary to
11 provide facilities for the increased demand thus
12 encouraged.

13 Admittedly this may not be a major
14 portion of the projection for increased future demands
15 but on the other hand it does represent an area where
16 vendors of energy should examine their conscience.

17 That is the total submission, gentlemen,
18 except I would like to repeat that I feel in Dufferin
19 County we are lacking in those incentives which
20 would cause industries and commercial enterprises
21 located in other parts of the province to become
22 situated there and thus provide for Dufferin County
23 a more balanced economy. The economy in the past
24 has rested almost solely on agriculture which seems
25 to be a dwindling enterprise at the moment and that
is why I wish to endorse Mr. Hawkins' suggestion that



3.5

1 some consideration should be given, if the political
2 hurdles can be overcome, to some form of incentive for
3 industry to locate outside the Metropolitan area.

4 Thank you.

5 THE CHAIRMAN: Thank you very much,
6 Mr. Coombs. If you could just stay there for a minute
7 and see if there are some questions from my fellow
8 commissioners or Dr. Roehart.

9 MR. McCAGUE: Mr. Coombs, are you
10 associated with the Municipality of Dufferin County or
11 of the town of Orangeville?

12 MR. COOMBS: No, I am deputy Reeve of
13 a rural township and a member of Dufferin County Council.
14 May I explain - I think I was chosen because I am supposed
15 to be an electrical engineer.

16 THE CHAIRMAN: Dufferin County has a
17 very wide range of soil classes, has it not? You
18 have some top potato producing land and some very
19 fertile land. You have a great deal of scenic land in
20 the County. What has been the change in population in
21 Dufferin County, including Orangeville, in the last
22 10 years?

23 MR. COOMBS: Compared to the southern
24 part of the province I would say it is virtually static.
25 It has increased to some degree but a negligible degree.

In some of the townships the population



3.6 1 was greater at the turn of the century than it is now.
2 You mentioned the type of land. That is quite true,
3 but remember, the Niagara escarpment runs right
4 through Dufferin County and because of that geological
5 formation you do get excellent agricultural land in
6 certain small areas and those areas are sufficiently
7 restricted that you can't consider the County to be
8 as viable an agricultural enterprize as you would find,
9 say, in the area from London north east and west
10 where it is all good land.

11 MR. McCAGUE: I wonder if you could
12 expand - I think I have a note here that Dufferin
13 would strongly oppose any form of land control. Would
14 you expand on what you are thinking about?

15 MR. COOMBS: A short time ago there
16 appeared before Dufferin County Council a delegation
17 of farmers from an area through which Hydro was
18 planning on running a transmission line. They were very
19 upset people. I don't think this is the place to
20 discuss whether they were justified or not. They
21 felt that the transmission line was being run in the
22 wrong place.

23 Well, who is right, who is wrong? The
24 point I am making is that I feel that the Hydro planners
25 should have foreseen this, anticipated it and prevented
this outcry happening. If the transmission line had



3.7 1 to go where it did then those people should have been
2 very carefully convinced of that fact.

3 Hydro has had a series of public forums
4 on the subject. They have not been publicized well
5 enough. They have not been conducted in such a way that
6 the public support was gained. Therefore I think we must
7 accept the fact they were not effective in doing what
8 they set out to do.

9 If there was no alternative for this
10 then the facts that justified it should have been
11 acceptable to the people if they had been presented
12 properly. Many of them felt that they were being
13 faced with a fait accompli

14 I am not saying who is right. I am just
15 saying there is an awkward situation which should have
16 been prevented.

17 MR. McCAGUE: Do you see this general
18 public relations or approach of Hydro as being a matter
19 of very considerable interest that may come to us in
20 the way of a formal brief when our formal hearings
21 commence, next June or July.

22 MR. COOMBS: I think there is more
23 than one group of people who would be quite glad to
24 do so. I think that if they felt that such a submission
25 would be welcome I am sure they would take the trouble
to prepare it. I will take the liberty of conveying



1 to them the idea that they should do so.

2 MR. McCAGUE: This is their option,
3 of course, Mr. Coombs.

4 MR. COOMBS: I realize that.

5 MR. McCAGUE: These are preliminary
6 sessions we are having now, very informal, and hopefully
7 a means of getting involved from the public by way
8 of discussion in an atmosphere that is relaxed and
9 so on, and we have had good response in these sessions
10 and good attendance.

11 MR. COOMBS: You see, to put it again
12 in a purely parochial vein, these people feel power is
13 being generated at Dufferin Station to be taken to
14 Toronto for the greater glory of Toronto and everything
15 that goes with it and that in doing this their property
16 values are being decreased, so they are getting virtually
17 nothing out of it.

18 Whether they are right or wrong is not
19 the point. That is the way they feel. Therefore I
20 think it is up to somebody to convince them that this
21 is not so and that is not being done.

22 MR. McCAGUE: Thank you, Mr. Coombs.

23 MR. COSTELLO: Of course, if you^{go}/_{back}
24 in time, Mr. Coombs, I am sure the power from Niagara
25 Falls was supplying many areas other than Niagara Falls
and we all know that power from Northern Ontario has



3.9 1 for many years been flowing south. There is now a
2 balance and power is flowing to the North from the South.
3 Everybody close to a power station thinks that they
4 should have cheaper power and it has not been Hydro's
5 policy to do that. I am not defending the policy they
6 do have either, but we keep running into it.

7 THE CHAIRMAN: There has been as you
8 probably know Mr. Coombs, a rather drastic change in the
9 policies of Ontario Hydro towards new purchase or the
10 taking of easements on land in relation to transmission
11 corridors. I am just wondering whether the incident
12 that you have in mind here was before or after that
13 policy or if you don't know that, could you tell me
14 roughly when it was?

15 MR. COOMBS: About four months ago.

16 THE CHAIRMAN: Oh, after. That's bad.

17 MR. COOMBS: That is why I brought
18 the matter up.

19 THE CHAIRMAN: I see. It is bad and it
20 is therefore of direct interest to the Commission.

21 MR. COOMBS: Yes. I feel it is an
22 area in which more attention should be paid to the
23 cultivation of public support.

24 THE CHAIRMAN: Yes. You have very
25 kindly undertaken to speak to the groups that were
involved and to let them know of our general interest in



3.10 1 hearing their side of the story. If they wish to come
2 forward we welcome their brief. Thank you, Mr. Coombs.

3 I would like to welcome Mr. D.E.
4 Hammond, who is the manager of the Port Elgan Public
5 Utilities Commission.

6 MR. HAMMOND: Dr. Stevenson, and members
7 of the Commission, I had planned on presenting a
8 written brief but since I have known Mr. John Gurnham
9 of Owen Sound for so long I thought perhaps a written
10 brief would sound as if we were the gold dust twins
11 so I am giving mine more or less verbally. I have
12 a few notes.

13 I would like to touch on about six
14 of the areas mentioned in the commissioning of the
15 Commission.

16 The first one is relating to the
17 planning of a long range power system in relation to
18 provincial planning. I have talked to a large number
19 of people on this and most of us are mystified and
20 completely in the dark as to what the provincial plans
21 are in the future.

22 I can't for the life of me see how
23 you can help them plan a power system on a plan that
24 doesn't exist. I am also convinced that if the
25 Provincial Government has some long range plans for



3.11 1 this province and we can get our hands on them that
2 we have the people in place now in both Ontario Hydro
3 and in our local utilities to plan a suitable electrical
4 system to suit their plans.

5 This brings me to an item which perhaps
6 is not under your jurisdiction but is one which I think
7 brings up many of the problems that you are looking into.

8 At the present time we have a Minister of
9 Energy in both the Federal Government and in our case
10 here in Ontario in the Provincial Government and neither
11 of these people has seen fit to date to announce what
12 our energy policy is. This has a tremendous effect
13 right down to even a small utility like my own. How
14 in the world can we plan even a local utility if we
15 don't know what type of energy is going to be in the
16 forefront even five years from now. We can't wait
17 until 1983.

18 We even have these ministers making state-
19 ments which get in the headlines. I have two of them
20 here. I won't bore you with reading the articles. Here
21 is one by the former Minister of Energy, Mr. MacDonald,
22 and the headline reads: "Ontario may go short of Oil."
23 That was in the Toronto Star about two months ago; and
24 here is one about three weeks ago: "Shortage of Gas
25 within five years will mean rationing, Timbrell says."

All I can say to both of them is, somebody



1 should do something about this, the famous last words
2 of privates, you know.

3 Then yesterday in the Globe and Mail
4 the headline reads - this really was not a headline,
5 it was in the business section: " 34,000 ton export of
6 Uranium approved." I wonder if you people are going to
7 secure the fuel supplies of this province if you
8 aren't a little late.

9 That is all I have to say about the long
10 range planning. I think if we had some long range
11 plans handed to us we are quite capable of doing
12 something about it.

13 The second thing is the conservation
14 of energy. I would be very disappointed if anyone in
15 this province suggested that either Ontario Hydro or
16 our local Commission should have the right to control
17 the use of electric energy. In my opinion there are
18 only about three ways to control it. The first way
19 is negative and that is allowing black-outs and brown-
20 outs which will in effect say to people, we are showing you
21 what is going on in this province. Surely no one in his
22 right mind would suggest that we allow our system to get to
23 that condition if we can do something about it.

24 The second way, of course, is price
25 control. I hear this all the time. We are going to
control the use of power by price control. What this



3.13 1 means is that the more power you use the more expensive
2 it gets and that to me means that the wealthy people
3 can go on wasting power and the rest of us who are peasants
4 can do without it and yet a large portion of the Ontario
5 Hydro system has been put in place by the millions
6 of dollars that have been taken from the peasants, not
7 from the wealthy people.

8 Then, of course, I listened today with
9 great interest to encouraging people to use power
10 at other times of the day and I believe this has been
11 tried in other places and I believe in England they
12 found that all it did was shift the peak from one time
13 of the day to the other. If you price my power and force
14 me to use it at night I am quite sure all my neighbours'
15 would be in the same boat, so what are you going to
16 win? I don't think you will win anything. You will
17 just shift the peak from one time of the day to
18 another. You will still have the same technical problems.

19 There was area in conservation of
20 energy, it was brought out today when Dr. Stevenson
21 questioned John Gurnham and that is on bulk power,
22 bulk metering of apartment buildings. Virtually all of
23 the apartment buildings built in the last 10 years
24 in Port Elgan are single meters. We don't have any
25 very large ones but I too would like to see some sort
of a cost analysis made as to the increase in cost of



1 supplying in the first place a meter reading room and
2 the cost of producing if you have a 100 unit apartment,
3 the cost of producing 400 bills instead of one; and
4 I would also like included in that study the incidents
5 of people walking out of those apartments and leaving
6 the local people to pay their Hydro bill.

7 The third thing I want to deal with
8 very briefly, in fact it will take two seconds, I
9 imagine, is the security of our fuel supplies. I am
10 convinced that there are only two fuels that are
11 readily available in Ontario, that is Uranium and water
12 power used for generation and will be very interested
13 when this Commission comes out with their report to
14 find how we are going to secure something which we don't
15 own in the first place.

16 I think you have got a real job on
17 your hands and all I can do is wish you a lot of luck.

18 The fourth thing I want to speak briefly
19 on is the Bruce Corridor, that is the transmission line
20 from the Bruce Generating Station to the southern part
21 of the province.

22 I really was not born in Port Elgin
23 but I have lived there all of my life that I know of,
24 I was only three years old when I went to Port Elgin,
25 and while I live in a small urban town I think I am
basically rural in my thinking. Many of my friends live



1 in the townships around; many of them I went to school
2 with; and I think the hardest thing for any person from
3 a rural area to swallow is to lose some of his land. It
4 is like tearing the heart out of someone, and for
5 them I have all the sympathy in the world.

6 On the other hand, we people in Bruce
7 County, and I think to a great extent here in Grey
8 County, for years have been enjoying the benefits of
9 electric power which was generated many hundreds of miles
10 away and brought into our county on power lines over
11 other people's property. Perhaps we should take a long
12 hard look at whether the worm has not turned and we
13 should feel somewhat the same way about shipping it back
14 out.

15 The next thing I would like to speak
16 very briefly on again is environment. I am convinced
17 that the environment is only spoiled by those things
18 which man makes himself. Whether you are religious or not
19 I am convinced that only the Lord makes things beautiful
20 and therefore I would like to suggest that the things
21 which really spoil our environment are sometimes the
22 very homes and businesses and industries in which
23 we live and work. Surely no one here would suggest
24 that we bury all our houses and our industries and
25 put it back to sod and put the trees back on the
highways. We people in utilities have a great deal of



3.16
1 experience with people wanting the environment improved
2 by having an underground system put into, let us
3 say, a new subdivision. In our case, we have converted
4 several streets from overhead to underground. It is
5 very amazing to find that the ugly, wood pole/^{that}was in
6 front of their house suddenly becomes a Godsend when
7 they buy it and put it in the back yard for a clothes-
8 line pole.

9 You can also go through one of our
10 several new subdivisions where we spent literally
11 hundreds of thousands of dollars burying the entire
12 system and you go back in a year and there is a forest
13 of 40,50, 60 foot steel lattice work towers for
14 television aerials. I don't think any utility in
15 its right mind would use those towers in the front of
16 a house to hang wire on but people will accept this and
17 it is a very strange thing to deal with, this
18 environment. I have not got to the bottom of it yet
19 and I have been dealing with it for a good 15 to 20
20 years now.

21 The last thing, of course, is coming from
22 Port Elgin, one of the so-called impact municipalities,
23 for those of you who have read Dillon Report, the
24 impact study on rural and small urban municipalities
25 when a large generating station is built near them,
it is a very beautiful report. There's just one thing



3.17 1 lacking, however, in my opinion. There is no place in
2 the report hardly where a public utility is mentioned.
3 They go into great depths on policing and recreation and
4 senior citizens and schools and everything else, but
5 the public utility is considered by Ontario Hydro to be
6 a feature of the local municipality. We in Port Elgin
7 were very fortunate in that our local council gave
8 us free, granted us, a \$155,000 grant of the monies that
9 Ontario Hydro provided. As far as I am aware, we are
10 the only utility in the area that got one cent out of it.

11 Surely you must recognize that the impact
12 on a public utility must be at least as great as it is
13 on a municipality itself. I suppose the answer to it is
14 if you don't like the way the municipality is running
15 things you can go out and vote somebody else in. I doubt
16 if this would work.

17 Now that, gentlemen, is about all I have
18 to say, and I hope I was not too lengthy.

19 THE CHAIRMAN: Thank you very much,
20 Mr. Hammond. It was a very well organized and thoughtful
21 presentation and included some points that we had not
22 heard before including the last one which I don't think
23 we would have thought of.

24 MR. COSTELLO: Mr. Hammond, your remarks
25 on provincial planning, we are certainly conscious of
this as you undoubtedly are aware.



3.18 1 We have met with most of the ministers
2 and they are going to be presenting formal briefs to us
3 themselves. It will be interesting to see what
4 transpires there.

5 Jumping down to bulk metering, I remember
6 up North when they never charged for water and did not
7 charge for power. They put in water meters and put in
8 meters on the electric power inputs - great screams, of
9 course - but the usage just got down unbelievably.

10 I personally can't help but feel - I
11 think you have got a good point, there should be a cost
12 benefit analysis done. Some of these installations
13 in Toronto are very, very big. They all have telephones
14 but they manage to get out of there and still - the
15 reason of course that the telephone bills are paid I
16 guess is that you pay your telephone bill one month
17 ahead except for long distance charges so maybe that
18 is one way of getting around this problem of people
19 moving out and not paying their light bills.

20 Skipping to shifting of peak, what
21 you say is true and it may be particularly true in
22 your area but I do know in Sault Ste Marie, Great Lakes
23 Power are desperately short of power. They have great
24 problems with peak control and our company while I was
25 with them, they are still doing it, we would pull a
big bulk of our load off during the daylight hours and
come back on again at midnight. We happened to have



3.19

1 facilities that allowed us to do that. The average
2 individual can't do it unless he does his washing at night,
3 I guess, but heavy industry can shift their peak periods.

4 MR. HAMMOND: We don't have any.

5 MR. COSTELLO: I realize that you don't
6 but there may be a place there for interruptible power
7 and valley power and that sort of stuff because
8 industry is a big user of power, which you know. That is
9 one instance where local industry happens to be helping
10 out the local power facilities and I am sure there can be
11 others if we look for them where the opportunity exists.

12 Thank you.

13 MR. McCAGUE: Mr. Hammond, in a very
14 short brief you have covered a lot of territory and
15 many interesting points.

16 Bob Costello spoke about the long range
17 planning and our terms of reference there with long
18 term planning with respect to energy and as it relates
19 to provincial plans and a review of some 40 other
20 rather pertinent questions in connection with long
21 term planning, 17 or over one third of them, seemed to
22 relate right back to provincial planning and indeed
23 national planning; so you are emphasising a problem
24 here that we too see.

25 We think that we will get some direction
from various departments of Government but at the same



1 time we are very much in need of this.

2 The reference you make to the Bruce
3 Corridor is an interesting one. We are going to
4 be meeting a number of agricultural groups tomorrow
5 evening in Wingham.

6 MR. HAMMOND: You will meet the best
7 there.

8 MR. McCAGUE: And your comment about
9 the
10 prior to a few years ago/Hydro travelled the other
11 way and you see that now as a sort of give and take
12 proposition is an interesting observation. I don't think
13 I have anything further. Bob has covered the other
14 points.

15 THE CHAIRMAN: Just commenting on the
16 question of the lack of an energy policy, Mr. Hammond,
17 you are echoing the sentiments of many, many editorial
18 writers and others in the last few years.

19 You will be interested to know that
20 Mr. Timbrell has begun what he calls an energy balance
21 study for Ontario which, as I understand it, is
22 people and consultants looking at the growth trends
23 of each energy form, Hydro, gas, oil, coal and so
24 on in this province and they are trying to come to some
25 assessment of how we should heat our homes, what is
the best fuel to use in the 80's and 90's; how
much gas can we reasonably expect to be available in



3.21 1 this province and to what use should it be directed;
2 feedstock uses, industrial uses, or heating our homes;
3 and electricity, the one that we are most concerned
4 with, we will get direction from the Ministry study
5 as to the role of electric power in the total energy
6 spectrum. Without it, of course, nobody can reasonably
7 project the rate of growth of electrical demand. I don't
8 know what we can expect by way of a public release
9 from Mr. Timbrell on the findings of this body but I know
10 that our staff and the Ministry of Energy staff will be
11 working hand in hand as we proceed, they with their
12 study and we with ours, and hopefully before 1983 your
13 utility will have a little better idea of what the
14 provincial Ministry of Energy thinks should be the
15 priorities for uses of various fuels - I hope.

16 Thank you very much sir - a very good
17 submission.

18 Now, the Commission is open to hear from
19 anyone else who may have any comments they would like
20 to make for the record, formal or informal, or questions.

21 Yes, Mr. Little.

22 MR. LITTLE: This is very informal and
23 very brief but I think you might be interested to know
24 that in Winnipeg there is an Institute called the
25 Bio Mass Institute, I don't know whether you are aware
of them or not.



3.22 1 THE CHAIRMAN: Very well, yes.

2 MR. LITTLE: I think they might be an
3 interesting group of people for you to request a
4 submission from. I know when South Indian Lake in Manitoba,
5 the flooding of South Indian Lake was made this
6 group which is headed by Ernie Robertson decided they
7 should make a submission to Hydro in Manitoba; and they
8 got the chief forester for Abitibi to see what could
9 be done with renewable resources in the production of
10 electrical energy. These facts are not exactly right
11 and you will have to get to them from them but
12 apparently something like 100 miles square of properly
13 managed forest with current technology would produce
14 as much electrical energy in the province of Manitoba
15 as was currently being produced by / hydroenergy and it would
16 be able to be produced indefinitely. I thought that
17 might be interesting - if you were looking for alternatives.
18 That sounds like a pretty good alternative to me.

19 THE CHAIRMAN: We know about the Institute.
20 I would be interested - Dr. Rosehart, do you know if
21 we have had any contact with the Bio Mass research study?

22 DR. ROSEHART: I think we have some
23 background information on their activities in the area
24 of using agricultural waste and stuff to generate gases
25 but this is the first I have heard of the sort of -
I guess you are talking about a tree farm type of operation



1 for fuel combustion material.

2 MR. LITTLE: Yes, it sounded like an
3 extremely interesting thing and it was a keynote speech.
4 They will have copies of it.

5 DR. ROSEHART: I think that Bob might
6 wish to comment on that.

7 MR. COSTELLO: I know we leave half the tree
8 in the bush now but we are getting better. The problem
9 really is the cost of picking up what is left. It so
10 happens in the company I was working for we were installing
11 a large steam boiler and turbine at Smooth
12 Rock Falls which will be fueled entirely with
13 refuse from our wood operation there and from the saw
14 mill operation there and from the saw mills within the
15 area. That is about seven million dollar job, to
16 generate all their own, half from hydraulic and the rest
17 from this refuse generation. That is a sort of a one
18 shot job. You don't have these opportunities that
19 often. If you have got to go out and pick up the
20 branches and the twigs and the leaves, the cost is
21 astronomical and I think theoretically the statement --

22 MR. LITTLE: It sounds like a good
23 theory. It just brings up the question of alternatives.

24 MR. COSTELLO: I know. The whole
25 industry is looking at the refuse as a source of energy.
It used to be nothing but a damned nuisance but ^{no} longer;



3.24 1 it is a source of energy.

2 MR. LITTLE: As the cost of current
3 energy goes up I wonder if Ontario Hydro should be
4 looking, they probably are, at alternative generating sources

5 MR. COSTELLO: We will get that paper.

6 MR. LITTLE: Thank you, very much.

7 THE CHAIRMAN: Yes, sir.

8 MR. HENNENFENT: My name is Gerry Hennenfent.
9 Mr. Chairman, and Commission members, one of the
10 questions that concerns me is the productivity of this
11 country. I am looking at this - I have just moved from
12 Thunder Bay to here and I have only been here for 10
13 months so I will relate it to an industry which Mr.
14 Costello is quite familiar with, the woods industry.

15 I note that the paper mills have been
16 on strike now for the past seven months and I happen
17 to know one industry which has hydro bills in the
18 neighbourhood of seven million dollars a year. I wonder
19 whether you as a Committee can make some recommendations
20 for improving the enforcement of legislation which
21 will delay or minimize these type of strikes or at
22 least minimize the duration of the strikes, recognizing
23 that if you have an industry that - that is one of the
24 companies, I know there are several companies on strike
25 right now and have been so for the last four months -
I note in the Rate Review Board Sittings figures in the



3.25
1 neighbourhood of 35 million dollars representing a
2 substantial saving in rates. I have to believe that the
3 paper mills being out , they are only one industry
4 and I only use them as an illustration because I am
5 talking about productivity of our country and I am
6 sure your studies will extend or have some impact in
7 the Federal Government as well, that these must be
8 magnitudinal in the losses to a company like, say,
9 Ontario Hydro for instance in which our plant is in
10 place to provide the service and when it is not in
11 place we are losing revenue. I have to think that this
12 has a long term impact on where our money is coming
13 from.

14 THE CHAIRMAN: I will let Mr. Costello
15 handle this, but before I do, sir, would you give me
16 your name please.

17 MR. HENNENFENT: Gerry Hennenfent. I am
18 the local Ontario Hydro manager here, and I am not
19 talking on behalf of Ontario Hydro. I am merely looking
20 at it from a personal type of thing.

21 THE CHAIRMAN: Let me ask you this, sir,
22 you would know the answer, I suppose. During that strike
23 would not the paper companies be nevertheless required
24 to pay the demand portion of their rates?

25 MR. HENNENFENT: I don't know their
policy. It is much less than demand; it is more like



3.26

1 25 percent, I think.

2 MR. COSTELLO: It is the percentage of
3 the average of the last 11 months. It used to be 25 percent
4 but I think it is 75 percent now.

5 MR. HENNENFENT: It is a nominal fee too.

6 MR. COSTELLO: It is not a nominal if it
7 is 75 percent. There is a figure there; it is quite a few
8 years since I have seen one of those contracts.

9 MR. HENNENFENT: I am just using them
10 as an illustration and there is also an impact on the
11 employees - everybody - and I think the power supplier
12 is one of the main sufferers in this type of thing. I
13 merely offer this so if you are looking into that
14 aspect of it I am a concerned citizen for that.

15 THE CHAIRMAN: Mr. Gurnham, you
16 were going to make an observation?

17 MR. GURNHAM: I was just going to
18 say that the demand ... charge in Owen Sound per
19 kilowatt is \$2.30 and if it was a situation like Mr.
20 Hennenfent was explaining it would only be 25cents
21 per kilowatt. If the company had a peak of 1,000
22 kilowatts and they dropped down to zero, they would
23 only be billed 25 cents for the thousand or \$250.

24 MR. COSTELLO: That is only 12½ percent.

25 MR. GURNHAM: I'm sure that is our
policy. This is the municipal utilities standard



1 application of rates, Mr. Costello. That would apply
2 to 353 municipal utilities in the Province of Ontario.
3 I don't know how Ontario Hydro works.

4 MR. HENNENFENT: It works the same.

5 MR. COSTELLO: It has been a long time
6 since I have looked at any of these contracts.

7 MR. GURNHAM: It used to be called the
8 75 percent clause, and that is what you are referring
9 to but that was struck out two or three years ago.

10 MR. COSTELLO: Could be.

11 MR. GURNHAM: It was struck two or three
12 years ago.

13 MR. COSTELLO: The industry got caught
14 on minimum- I shouldn't use the word " caught" I guess.

15 MR. GURNHAM: Mr. Boss got after us.

16 MR. COSTELLO: They had the same
17 situation in natural gas, you know, a take-or-pay sort
18 of situation and they have not been able to take.

19 THE CHAIRMAN: Any other comments,
20 observations, questions? We will have another opportunity
21 tonight of course, right here at 8 o'clock. If there
22 are any other points anyone would like to make right now,
23 please feel free.

24 The proceeding this afternoon is adjourned
25 and we will reconvene at 8 o'clock tonight. I hope as many
of you as possible will return. Thank you very much.

---WHEREUPON THE MEETING ADJOURNED.

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